

# THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVII.

SATURDAY, OCTOBER 31, 1885.

No. 18

## ORIGINAL ARTICLES.

### REMARKS ON THE TREATMENT OF ROSE-COLD AND HAY FEVER BY COCAINE.<sup>1</sup>

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In a communication which I made to the College last December,<sup>2</sup> I suggested that cocaine ought to be advantageous in hay fever. During the past summer I have had several opportunities of carrying this thought into effect, and, as I see by some very recent journals, others, too, have employed the drug with the same purpose; altogether, I think, it has been sufficiently tested for us to welcome it as a very decided addition to our means of counteracting this most troublesome affection.

The first case in which I became familiar with its use was one of great susceptibility of the nasal mucous membrane, which I saw last spring in a Southern gentleman. It was more like rose-cold, strictly speaking, than like hay fever, but due to the same irritability of the mucous membrane, and always marked and most annoying with early vegetation. A two per cent. solution, which I afterward increased for a time to a four per cent. solution, gave him such comfort and relief, that I had some difficulty in inducing him to discontinue the remedy. He said that its local employ not only soothed the intolerable irritation and stopped the sneezing fits, but exerted a quieting influence over his whole nervous system, similar to what he experienced from small doses of morphia, to the influence of which he was very sensitive.

One of the most striking instances of success I had with cocaine was in a young lady who had been for four years a great sufferer with rose-cold, which always came on about the middle of May, and lasted until June. Later it became a hay fever, and attacks of troublesome asthma complicated the disorder during the summer and the early autumn, especially in the latter part of July and August. She is a young lady with a sound digestion, and calm nervous system. It has been her habit to leave her country home in summer to go to Newport, whence generally, after a month's struggle with asthma, she has been obliged to move to some of the hay fever resorts in the White Mountains. Her eyes and nose suffer much in the earlier stages of the complaint; there is, however, no sore throat. Later a bronchial affection and asthma appear. The main complaint in the earlier stages is from the intolerable sneezing. This occurs especially in paroxysms in the morning, and is apt to stop after breakfast, although on cool days

it often continues all day long. There is, also, especially under such circumstances, much running from the nose. All her pleasures have been interfered with, and her life in summer rendered very miserable by the complaint. She had tried many remedies, both local and general, without effect. Late in May I prescribed cocaine for her, a four per cent. solution, telling her if she had any throat irritation to apply the remedy also to the throat. This she did not find necessary; the cocaine injected every morning into the nostril by means of a medicine dropper, about five drops in each nostril, gave her prompt relief. It arrested at once the sneezing fits, and she was comfortable, even free from coryza, all day. Once in a while, especially on cool days, a second application in the afternoon was resorted to, but this was rarely required. The numbness from the application lasted about fifteen minutes, and she perceived it more in the throat than in the nose. The most gratifying result from the use of the remedy was, that it prevented the asthmatic seizures.

She passed her summer at Newport without discomfort, only employing the cocaine after a time occasionally, and as she thought she needed it.

The cocaine employed in these and other cases was a four per cent. solution. A weaker solution, I am convinced, rarely does good. A stronger solution may be found necessary, and, before abandoning the remedy as ineffectual, I should always advise an eight per cent. solution to be tried.

In one case in which I applied a four per cent. solution, cocaine had previously been used, but, I have reason to think, in a much weaker form. The patient, his physician told me, had had hay fever most violently for fifteen years. He was known all over the West as the "hay fever man." He had tried everything; cocaine, too, had failed to relieve him. The attack came on always on the 17th of July, and lasted, with great severity, for months; some bronchial catarrh, but very little asthma, accompanying it. On the 26th of September he tried a four per cent. solution in the evening, and slept that night comfortably for the first time for months. He has since used from five to eight drops, thrown up the nostrils with a medicine dropper every evening, and always with the best results. He does not like to resort to it in the daytime, because he finds that the fluid passes down his throat, numbs it, and makes his speech difficult.

Other than the effect just mentioned, I have not seen any unpleasant result from its use. I must, however, except the case of a young married lady, who found so much relief to her hay fever from the local use of a four per cent. solution, that she employed it a number of times daily. The consequences were increased vascular tension and violent and distressing headache.

There is, undoubtedly, an insusceptibility—in some

<sup>1</sup> Read before the College of Physicians of Philadelphia, October 7, 1885.

<sup>2</sup> Published in THE MEDICAL NEWS of December 13, 1884.

a varying susceptibility—to cocaine locally used. Thus, in an elderly lady with rose-cold, in whom no local remedies act speedily, a four per cent. solution produced very little impression. I meant to try an eight per cent. solution, but, as she left the city, I had no chance, and am thus forced to record this case as a failure.

The manner of employing the cocaine is not without importance. It may be used with a small atomizer as a spray. But the readiest means is to inject from five to eight drops up each nostril, the head being thrown backwards; in some persons once, in most, twice daily, will be found sufficient. It will be necessary to instruct patients not to irritate the membrane by rubbing it needlessly with the glass tube, or pushing this up too far. Thus a patient who had hay fever for thirteen years, and who was at the seashore on the 17th of August when the hay fever came on, and in whom tincture of ignatia amara seemed favorably to influence its course, tried cocaine in one nostril only. He inserted the tube far up, irritated the membrane, and water ran from that nostril, which became sorcer and more inflamed than the other. More judicious attempts produced better results, but he could not be persuaded to give the remedy a fair trial, owing to his first experience with it.

Its mode of action in hay fever is partly by the local insensibility it produces, partly by the contractions of the capillaries it induces. The effects are thus chiefly local. It will not arrest the bronchial catarrh or the asthma, which attend some cases; yet it is astonishing how it seems to lessen the tendency to these complications when early applied, and before they have got much headway. Is its action, then, not partly a reflex action? That the remedy is radical, and, strictly speaking, curative, I have not found; but that it gives great comfort, converts bad into light cases, enables those to stay at their homes who otherwise are obliged to flee to hay fever resorts, relieves much suffering and distress, I know and have fairly tested. In no case of rose-cold or hay fever ought cocaine to be left untried.

#### CONTRIBUTION TO THE ETIOLOGY OF MALIGNANT TUMORS.

BY R. J. HALL, M.D.,  
OF NEW YORK.

So much of an almost purely speculative character has been written during the last few years on the etiology of malignant tumors, that did this paper contain merely a new hypothesis, I should scarcely venture to present it to the Surgical Society.

It consists, however, chiefly of a series of cases, most of which have come under my own observation, which, in my judgment, strongly support that hypothesis which is slowly but surely working its way into the minds of most thinking pathologists and surgeons. I refer to the hypothesis which attributes these mysterious neoplasms to a specific virus, in all probability a microorganism.

Without stopping to give an accurate definition of the term "tumor" in general, it may be sufficient to say that by malignant tumors we mean such as

invade the neighboring tissues and produce metastases,<sup>1</sup> and that all such tumors are included in two great classes, carcinoma and sarcoma. In regard to the first of these, almost all pathologists have accepted Waldeyer's view, that the cells which occupy the alveoli are epithelial, and the tumors, therefore, are essentially of epithelial origin; while there is no doubt whatever that the sarcomata are built up of connective-tissue elements.

The theories hitherto formulated in regard to the origin of these tumors have been so well classified by Dr. H. F. Formad, in an exhaustive paper on the same subject, that I cannot do better than reproduce this classification. Under each heading he has given a list of the pathologists who have supported the hypothesis. This list is as follows:

1. Predisposition and inflammation theory (Virchow, S. D. Gross, Woodward, Samuel Wagner, Birch-Hirschfeld, Cornil and Ranvier, Perls, Tyson, Gross).<sup>2</sup>
2. Dyscrasia theory (Rokitansky, Paget, Billroth, Simon).
3. Embryonal theory (Cohnheim, Thiersch, Waldeyer, Lücke, Masse, Hasse, Epstein).
4. Idiopathic or spontaneous (Rindfleisch, Stricker, Nancrede, Payne).

5. Nervous theory (Van der Kolk, Lang, Snow). The nervous theory is, I think I may safely say, too fanciful to merit discussion, except when considered as a possible predisposing cause. The idiopathic and dyscrasias theories mean nothing, the terms themselves being mere words which either confess our ignorance or serve as a cloak to hide it. Cohnheim's, or the embryonal, theory, which has lately fallen into some discredit, undoubtedly offers a satisfactory explanation of the origin of some benign tumors, and may afford a beautiful explanation of one of the facts in regard to the structure of many malignant tumors apparently most difficult to reconcile with our hypothesis. For, if in certain regions, as in the parotid, embryonic remains are of frequent or constant occurrence, and in others occur rarely or not at all, we can understand why in the one case the same irritant should give us a mixed, in the other a simple tumor.

There remains then only the predisposition and inflammation theory. Under the great authority of Virchow pathologists have been ready enough to accept this last as a sufficient explanation; that they have been and are still very slow to recognize that inflammation is of a specific kind, is due, I think, chiefly to the following causes. When following closely on his cellular pathology, it was demonstrated by Virchow that tumors consisted of cells not differing genetically from those found in normal tissues, the discovery excited such enthusiasm that many were convinced that the life history of the cell alone could sufficiently account for all the phenomena. Thus, according to the widely accepted view of Thiersch, in old age the resistance of the connective tissue is diminished, the interstitial spaces are widened under some local irritation, the deeper epithelial layers proliferate and penetrate the underlying tissues, penetrate the lymph spaces, and are swept into the neighboring lymphatic glands where, in accordance with

their life history, they develop indefinitely, and not being on a surface where constant desquamation can occur, must do so at the expense of the surrounding tissues. Thiersch, while correctly recognizing the inflammatory character of at least one group of malignant tumors, the carcinomata, could not at that time make the distinction now clearly recognized between simple, or non-infective, inflammations, and infective, and his followers, with less excuse, refuse to do so even now. We have many instances of local infective inflammations giving rise to metastases; not one, so far as I know, of the non-infective. The view that malignant tumors are of inflammatory origin is one which has spread widely among pathologists, especially since it has been found necessary to place the so-called granulomata, tubercle, lepra, and syphilis among the inflammatory diseases. The points of analogy between these and the malignant tumors are too numerous and obvious to have escaped observation. They have been presented at length by Dr. Formad in an exhaustive paper,<sup>3</sup> and by Dr. Nedopil.<sup>4</sup> Time will only permit me to discuss them briefly to-night.

Tubercle, which may be taken as the representative of the granulomata, was long considered to be an ordinary inflammation in a tissue predisposed to disease. This is the standpoint which many pathologists occupy at present in regard to malignant disease. It is interesting to note that Formad,<sup>5</sup> whose weakness for peculiarities in the lymphatic system as sufficient to account for the origin of tubercle led him to reject the tubercle bacillus, and brought down on him what can only be described as the annihilating criticisms of Professor Koch<sup>6</sup> and Dr. Shakespeare,<sup>6</sup> finds in the absence of the endothelium of the lymph spaces, in carcinomata and sarcomata, a sufficient explanation of their peculiar growth.

Numerous attempts have been made to show that the anatomical peculiarities of tubercle tissue, epithelioid cells, giant cells, cheesy degeneration, are sufficient to account for all the peculiarities of the disease. The researches of Baumgarten<sup>7</sup> and Weigert<sup>8</sup> show that they represent only the reaction of the enfeebled cells under the irritation caused by the bacillus. A pathologist can hardly fail to be struck by the similarity of the enormously hypertrophied cells almost constantly found in sarcomata and carcinomata to the epithelioid and giant cells of tubercle, while the frequency with which they are found in a state of fatty degeneration, and the readiness with which they undergo spontaneous necrosis remind us forcibly of cheesy degeneration. The discussion was not yet quite terminated among pathologists as to whether tubercle tissue always differs so much from other inflammatory products as to make the microscopic diagnosis possible in every case. In the same way the exact line between certain sarcomata and the products of chronic inflammation has never yet been drawn, while that form of tubercular skin disease known as lupus papillaris or verrucosis, commonest on the dorsum of the hand, and of undoubtedly inflammatory origin, is, as I have myself had occasion to observe, undistinguishable under the microscope from epithelioma.<sup>10</sup> Into what absurdities we may be led by regarding carcinoma as merely a non-

specific inflammatory process is well shown by the statement of Formad,<sup>11</sup> that there are great numbers of chronic ulcers of the leg in the Philadelphia hospital, and that a large proportion of them are carcinomata—because he has found epithelial nests and proliferation of the interpapillary epithelium.

Both tuberculosis, as seen by the surgeon, and malignant tumors are distinctly associated with traumas. Thus Volkmann states that the great majority of tubercular bone and joint diseases are referable to an injury,<sup>12</sup> while Formad alleges that he finds an inflammatory origin in nearly one-half of all tumors.

Dr. D. G. Zesas quotes<sup>13</sup> S. Wolff's statistics drawn from tumor cases observed in the surgical clinic at Berlin between 1864 and 1873, according to which in 344 cases of carcinomata a trauma was given as the cause forty-two times, and in 100 of sarcoma twenty times.

It is well known that sarcomata usually follow a single injury, and carcinomata a long-continued irritation. The reverse, however, is by no means unknown. Thus Weil<sup>14</sup> gives two cases of sarcoma attributed to repeated irritation. Dr. R. F. Weir<sup>15</sup> has reported a case of scirrhus of the penis following a contusion received four months previously, and refers to a similar case reported by Holmes Coote.<sup>16</sup> J. W. Spulke\* reports a case, occurring in a man aged 68, in which a small wound of the palate, made by the stem of a pipe driven into the mouth, was followed in a month by a small wart, which grew rapidly, and six months after extirpation recurred, extended rapidly and caused the death of the patient. Microscopic examination proved the tumor to be an epithelioma.

If we deny the existence of a specific virus in these cases, we are compelled to fall back upon the vague term predisposition, which was formerly used to explain the cases of tubercular disease having a similar origin. On the hypothesis of a non-specific inflammatory origin, it is difficult to account for the fact that in some countries malignant tumors are practically unknown.<sup>17</sup> For surely contusions and chronic inflammatory processes with diminished resisting power on the part of the connective tissue cannot be wholly wanting in these places. One of the strongest objections made to the assumption of a specific poison in the case of malignant diseases, has been the absence of any evidence of contagion. Cohnheim<sup>18</sup> denied the existence of a specific poison on the ground that the surgeon is never infected from his patient, or the husband from the wife. It is well to remember that precisely the same objection was made to the tubercle bacillus. Many physicians of large experience declared that they had never seen a case of even probable tubercular infection; yet now the journals are filled with them, and while the surgeon seems still to be safe, the anatomist has not been spared.<sup>19</sup>

It is to meet this objection that I have ventured to present the following cases to the Surgical Society. Three of the series are from the practice of Dr. Sands, and one or both of the patients concerned in each case have come under my own observation; for the fourth I am indebted to Dr. Markoe, and the fifth

was seen at the Outdoor Department of the Roosevelt Hospital by myself:

CASE I.—Mr. Thomas E. C., æt. 40, married, N. Y., clerk, admitted to Roosevelt Hospital December 3, 1878. Family history good. Patient has varicocele on the left side, and tumor of the left testicle of twenty-two months growth, the size of a cocoanut, smooth, firm, and of fibrous consistency. Extirpation of the tumor January 3, 1879, by Dr. Sands. Death January 26 from suppression of urine due to pressure on the ureters by metastatic growths in abdominal cavity. Microscopic examination by Dr. Delafield showed the tumor of testicle and in the abdominal cavity to be encephaloid carcinoma<sup>19</sup>.

Mr. C.'s widow subsequently married. Margaret Anne, N. Y. City, æt. 50 years and 3 months, died while under my care, April 12, 1885, with carcinoma "en cuirasse," originating in the mammae. Tumors were stated to have been first noticed in 1882, and in both breasts at the same time. The growth was confined to the mammary glands and the skin, no enlargement of the axillary glands occurred, and only superficial ulceration of the carcinoma. Death due to repeated hemorrhages from the ulcerating surface and to exhaustion. No autopsy obtained.

Mrs. L.'s mother, Mary Anne D., died January 20, 1885, æt. 81 years and 6 months, of acute bronchitis and broncho-pneumonia. One month before her death the patient consulted me with regard to a rapidly growing tumor of the right breast, which she had first noticed one month previously. My diagnosis was probable carcinoma. The tumor was seen also by Dr. Sands, who concurred with me. The family history of this patient was good, especially no history of tumors. She had been a good deal with her daughter during the illness of the latter, but did not live in the same house. No autopsy obtained.

CASE II.—Mrs. D., æt. 43, with good family history, was subjected to operation by Dr. Sands on May 5, 1882, for carcinoma of the right breast of one year's duration. Recurrence took place about six months later, and the patient died about April, 1883. Microscopical examination by Dr. Satterthwaite showed tumor to be scirrhoue carcinoma. Mr. George D., æt. 47, husband of the last patient, came under observation October 20, 1882, suffering from tumor of the superior maxilla. A younger brother died five years ago of what was said to be recurrent sarcoma of the testicle. Family history otherwise good. About three months ago the patient noticed a swelling in the left superior maxillary region, and thinks he noticed a hard lump beneath the left angle of the lower jaw some time before this. Both tumors have grown rapidly since. A tumor of soft consistency occupies the situation of the left superior maxilla, and extends in the direction of the malar bone. There is a mass of enlarged glands beneath the left angle of the lower jaw. Extirpation of the tumor and enlarged glands by Dr. Sands. Rapid recurrence and death in May, 1883. Microscopic examination shows the tumor to be an epithelioma.

CASE III.—Miss Isabella S., admitted to Roosevelt Hospital May 25, 1885, suffering from a rapidly growing tumor involving the right superior maxilla,

and said to be of three months' duration. Extirpation of the superior maxilla by Dr. Sands, May 27, 1885. Death from shock and hemorrhage following the operation. Microscopic examination shows the tumor to be a giant-celled sarcoma. Mr. F. J. G., æt. 20, single, was engaged to Miss S. for some months before her death. He was submitted to a surgical operation on September 9, 1885, by Dr. Post for the removal of a small cystic tumor of the right superior maxilla, said to be of only three weeks' duration. The tumor lay in front of the antrum and did not occupy its cavity. Microscopic examination shows the tumor to be a giant-celled sarcoma.

CASE IV.—Taken from Dr. Markoe's work on *Diseases of Bones*, p. 266, 1882. Mrs. S. N. E., æt. about 23, consulted Dr. Markoe March 26, 1866, for a small tumor occupying the right side of the neck, behind the sterno-mastoid, and about the size of a hickory-nut. Operation May 1, 1866, when tumor was found closely attached to the transverse process of the fourth cervical vertebra. Recurrence after a few months, and slow growth until April 10, 1869, when a second operation was performed. Recurrence in fall of 1869, with gradually increasing paralysis due to pressure on spinal cord. Third operation on January 25, 1871, followed by complete relief of all the symptoms and no recurrence up to the present time. Microscopic examination by Dr. Delafield showed the tumor to be a myxo-sarcoma.

Mr. E., æt. 56, husband of the last patient, underwent on January 19, 1885, an exploratory incision of the abdomen, to determine the nature of an abdominal tumor, the symptoms of which dated from December, 1884. A soft friable tumor was found matting the viscera together in such a way as to prevent the possibility of its removal. The tumor was considered by Dr. Markoe to be sarcoma, probably originating in the great omentum. The patient died about three days after the operation. No autopsy was obtained.

CASE V.—Thomas C., N. Y., æt. 53, September 4, 1885; family and personal history good, especially no history of tumors or syphilis. Sixteen years ago the patient broke his left arm near the elbow, but recovered without stiffness or deformity. One month ago the left elbow and the right ankle became swollen, and swelling has increased rapidly since, without pain, redness, or tenderness, except over the internal malleolus where the pain is quite severe. Examination shows that the inferior extremities of the left humerus and the right tibia are expanded, so as to form distinct tumors, being smooth and of bony hardness. The neighboring bones and articulations are unaffected. Diagnosis of simultaneous sarcoma of the humerus and tibia. The patient was examined by a number of surgeons, who all concurred in the diagnosis. The tumors were especially unlike, in their growth and character, syphilitic or tubercular deposits, which almost alone might be supposed to come into consideration.

While taking the patient's history, I accidentally elicited the fact that his wife had died last February, after a six weeks' illness, with rapidly advancing hemiplegia of the left side, and that the diagnosis of the attending physician, Dr. A. R. Robinson, of this

city, was tumor of the brain. Dr. Robinson, whose well-known skill as a pathologist lends weight to the diagnosis, informs me that the case was a well-marked one of rapidly growing tumor of the brain involving the motor areas about the fissure of Rolando, and, so far as the diagnosis could be made clinically, undoubtedly sarcoma. Syphilis especially was carefully excluded.

I am well aware that these cases are not beyond criticism, especially on the ground of the absence, in some of the cases, of a microscopic examination. This, however, was unavoidable, and in none of the cases, except possibly the last, could there be much real doubt as to the nature of the disease.

In Case IV. the long interval which appeared to exist between the last appearance of the disease in the wife and its occurrence in the husband, may seem to deprive the case of all significance. When we consider, however, the extremely slow growth of the original tumor, as seen in Mrs. E., how long a similar one might exist in the abdominal cavity without giving rise to symptoms the objection loses much of its weight. The length of time also that a tumor histologically malignant may remain latent as contrasted with the frequently rapid growth of the same or similar tumors is, I think, not sufficiently appreciated by pathologists, and offers another striking analogy to tubercular deposits. When a tumor which has remained quiescent for many years, begins to grow and take on the character of malignancy, surgeons are apt to assume that it has undergone a histological change from a benign to a malignant growth. The following cases tend to prove that at least sometimes the assumption is unwarrantable.

CASE VI.—A small tumor, about one-half an inch in length by one-fourth of an inch in width, adherent to the skin, but situated in the subcutaneous connective tissue, was removed by Dr. Markoe from the back of a healthy man, where it had existed for many years, with, I am informed, little or no change during that time. The tumor is a small round and spindle-celled sarcoma, with little intercellular substance, and having histologically all the characters of malignancy.

CASE VII.—Minnie M., aet. 18, single, good family history, noticed a tumor of the neck below the lobe of the left ear, three years ago. Tumor is about the size of a pigeon's egg, and resembles a conglomerate of enlarged lymphatics. Patient states that it has scarcely grown or altered since first noticed. Extirpation May 25, 1885. Microscopic examination shows it to be a myxo-sarcoma and histologically very malignant.

CASE VIII.—Miss T., tumor in the same region, precisely similar to the former, occurring in a healthy woman, aet. 21, has existed for five or six years, and grown almost imperceptibly. Patient desires operation only because a brother had died about one year previously of sarcoma of the pharynx. Extirpation by Dr. Sands, January 23, 1884. Microscopic examination shows the tumor to be almost exactly similar in structure to the last.

The possibility of direct inoculation of the human subject or of animals with malignant disease has been much discussed, and many experiments made, with

generally negative or doubtful results. I have only been able to find in the literature of the subject two of all well-authenticated cases of apparent inoculation. Meissner<sup>21</sup> states that in 104 cases of melanotic sarcoma, one patient gave inoculation from a horse with the same disease as the cause. In the discussion in Dr. Formad's paper,<sup>22</sup> Dr. S. W. Gross quoted from the *Mag. für die Ges. Thierheilkunde*, 1862, p. 328, the case of an ulcerating medullary sarcoma in an ox. A woman who cleaned the sore every day acquired a tumor of the outer side of the fourth finger of the left hand. Kuhn examined the tumor and found it to be a medullary sarcoma. Among cases of supposed contagion which can scarcely be accepted as evidence, Hynerch<sup>\*</sup> refers to cases of contagion reported by Tulpius,<sup>†</sup> and to those to which have been attributed the deaths of Smith and Bollinger. In a discussion by Dr. Mundé<sup>‡</sup> on cancer of the penis and contagion, the author states that Demarquay, in an analysis of 134 cases, found one where local contagion was alleged, and that Dr. Welch quotes Langenbeck as saying that he had seen three or four cases caused in the same way. Dr. T. Gaillard Thomas<sup>§</sup> states that he has only met with one case of cancer of the penis in which contagion seemed to be probable.

There are a great number of unsuccessful or doubtful inoculations of animals, for an account of which I must refer to the general literature given below, and especially to Dr. Formad's article. The only experiments which seem beyond question are those of Professor Klincke,<sup>23</sup> who inoculated a dog in the jugular vein and a horse in the conjunctiva with juice from a pigment carcinoma taken from a mare. In the horse in sixteen weeks the lachrymal gland was transformed into a melanotic tumor; the dog died in three months and melanotic tumor masses were found in the lungs. Novinski<sup>24</sup> made twenty-seven inoculations of carcinoma from the nose of a dog into inflamed tissue and fifteen into normal skin. All of the first were negative, two of the last positive. Successful experiment: A small piece of carcinoma (2 mm.) was introduced into a fresh wound of the skin of the back. The wound healed per primam. In fourteen days the fragment had reached the size of a pea, in three months that of a walnut. Four months after the inoculation the dog was killed. The tumor measured three and a half inches in diameter, was soft and white in section. The lymphatic glands in the subclavicular region were much swollen. Microscopic examination of the tumor showed the peripheral part to be made up of closely lying polygonal cells, of epithelial character and varying in size, infiltrating the surrounding connective tissue. In the centre were alveoli of various sizes, with more or less fine tubercles and similar epithelial cells. Same structure occurred in the lymphatic glands.

A young dog was then inoculated with a piece of this tumor, but died half a month later (of pestrankheit). Examination showed a small tumor at point of inoculation; no metastases. Tumor showed typical cancerous structure. Dr. Gougu<sup>\*</sup> gives two cases which do not appear quite so conclusive. He injected melanotic masses into the left thigh of a dog and killed the animal after two weeks. At the

point of injection was found a melanotic tumor, the size of a thaler, and pigment in the lymph vessels and neighboring lymphatic glands. The lymphatic glands, including the bronchial, were enlarged and pigmented. Lungs free. The same material was injected into the peritoneal cavity of a second dog, which was killed forty-three days later. At point of injection and in the mesentery were deposits of pigment. In one horn of the uterus were two pigmented tumors. Few glands were affected; one much enlarged inguinal gland. The bronchial glands were pigmented, but this was possibly from the lungs. All the pigment was in epithelial cells, but these were not similar to those of the tumor injected.

There is another way, however, of studying the subject. It will not be denied that there is not at present a pathologist of eminence who does not teach that malignant tumors are at first purely local. Could it be shown that carcinoma and sarcoma could be transmitted from man to man or from man to animals, the idea that nothing but the cell was inoculated would not be able to hold its place in scientific opinion for six months. We have passed the stage when it was possible to believe that an infectious disease can be of spontaneous origin. Yet if the disease be at first purely local the inoculation of a distant portion of the body in the same patient, the so-called contact infection is as valuable as the inoculation of another person would be. Cases of this kind are not rare in literature. The chief received instances are the following:

Dr. M. Nedopil<sup>†</sup> quotes a case narrated by Lücke of ulcerated carcinoma of the edge of the tongue, with inoculation of the mucous membrane of the cheek on the same side; a case by Kauffmann, in which a woman had cancer of the dorsum of the right hand, and, subsequently, of the conjunctiva of the right eye. Her relatives stated that she constantly wiped the right eye with the back of the right hand. Cases by Ahlsfeld,<sup>‡</sup> Hegar,<sup>§</sup> and Spiegelber,<sup>||</sup> of direct inoculation of the vagina from the uterus; and cases by Klebs of inoculation of cancer of the tongue in the stomach. J. Reincke<sup>\*\*</sup> gives two cases in which carcinoma developed in the punctures made to relieve ascites due to carcinomatous peritonitis. Prof. H. Quincke<sup>††</sup> gives a similar case. C. Bartsch,<sup>†††</sup> in giving statistics of carcinoma of the lips, penis, and vulva, relates one case of possible contact infection. P. Kraske<sup>††††</sup> gives two cases of rectal carcinoma in which small secondary tumors were found at a lower point, separated by healthy mucous membrane from the primary growth, and refers to Virchow's<sup>†††††</sup> well-known observation on the peculiar distribution of carcinoma of the peritoneum secondary to carcinoma of the stomach; to the cases of Lücke,<sup>†††††</sup> Kauffmann,<sup>†††††</sup> and Klebs<sup>†††††</sup> mentioned above, and to a case by Erbse,<sup>†††††</sup> in which a carcinoma of the oesophagus perforated the trachea, and gave rise to secondary tumors in the lower lobes of the lungs.

Beck<sup>††††</sup> records the following three cases from the Institute of Chiari, Prague:

1. Ulcerating cancer of oesophagus. In anterior part of lower end of oesophagus and in stomach tumor of the same character—flat epithelial carcinoma.

2. Two carcinomata of the oesophagus separated by healthy tissue. The author admits the possibility of both being primary.

3. Multiple lymphadenoid round-celled sarcoma of most of the lymphatic glands, the lungs, spleen, and posterior surface of the stomach. In the ileum numerous similar nodules, not corresponding to Peyer's patches. In the cæcum an infiltration of almost the whole intestinal wall. The author excludes, on various grounds, all the other situations, and considers the growth in the cæcum as primary, and the other tumors in the intestinal tract as due to contact infection, the tumor particles being carried back by antiperistalsis; the tumor of the cæcum being ulcerated, and having caused much obstruction.

Beck quotes also a case by Hjelt, of carcinoma of the ileum and colon, with primary cancer of the duodenum.

Two cases of the kind have come under my own observation, as follows:

CASE IX.—Mr. A., an elderly gentleman, probably between 50 and 60, suffered for several years from a slowly growing epithelioma of the floor of the mouth on the left side, and encroaching on the posterior surface of the gum. Several operations were performed by Dr. Sands at varying intervals, with temporary success; but recurrence, after periods varying from two or three years to several months. After the fourth operation, December 18, 1884, rapid recurrence took place. A flat epithelioma developed on the hard palate, first at the point where the tip of the tongue, constantly in contact with the epithelioma in the floor of the mouth, would frequently impinge. The diagnosis in this case was confirmed by repeated microscopic examinations.

CASE X.—Mary M., at 44, single, March 29, 1885, family history good; no case of malignant disease known. Carcinoma of right mamma first noticed two years ago. Amputation of breast one year later. Axilla not opened. Recurrence noticed last October. Patient first seen March 29, 1885, suffering from carcinoma recurrent in cicatrix of operation; the new growth extending as nodular masses, ulcerated in part over almost whole of the right side of the thorax; anteriorly, laterally, and posteriorly to the external border of the scapula. Axillary gland on the same side much enlarged, and the whole right extremity enormously swollen, edematous, and painful. On left side of the thorax, above the mamma, and on the left shoulder, are several isolated, not ulcerated, cancerous nodules, varying in size from that of a split pea to three-fourths of an inch in diameter, and not extending beneath the skin. Profuse sero-purulent discharge from the ulcers. Patient was last seen June 23, 1885, when the carcinoma had extended over the upper part of the abdomen, and a great part of the right scapula and shoulder. Ulceration of the carcinomatous masses in the axilla had occurred. The discharge from the ulcers on the shoulder and in the axilla constantly runs down on the anterior and internal surfaces of the arm and forearm to the wrist, exciting an eczema and inducing the patient to scratch. *All along this surface are cancerous nodules in the skin, generally ulcerated or excoriated on the surface; some iso-*

lated, others confluent, and extending to the wrist. Died of exhaustion July 10, 1885.

I may mention here one or two more interesting points of analogy between tubercle and malignant tumors. The former appears usually as a more or less chronic and localized disease. It occurs also as an acute infectious disease; acute miliary tuberculosis involving the different organs with a rapidity that was a complete mystery to the pathologist until the views of Weigert, founded on careful anatomical researches, were confirmed by the demonstration by Weichselbaum,<sup>35</sup> Baumgarten,<sup>36</sup> and others, of tubercle bacilli in the blood. Raymond and Brodeur<sup>37</sup> record a case of primary acute miliary carcinosis, and refer to two similar cases by Charcot. Numerous cases have been reported during the last few years of general tuberculosis following operation on a local process, the operative interference having obviously opened the way for the bacilli into the general circulation.<sup>38</sup> A precisely similar general cancerous infection has been reported by Dr. Schweninger<sup>39</sup> as follows: Girl, æt. 17, single, operation for colloid carcinoma of both ovaries. The tumors were punctured shortly before the operation for diagnostic purposes. During the operation one of the tumors was torn; no reaction; wound practically healed in ten or eleven days. From this time on a continued fever of remittent character, diminished power and sensibility in left arm and leg, with severe neuralgic pains and cramps in the affected extremities. Rapid extension of these symptoms to right side; bronchial catarrh, increasing weakness, and death thirty-six days after the operation. Post-mortem examination showed that the peritoneum was thickly covered with carcinomatous nodules, varying in size from that of the head of a pin to a pea. Similar nodules in the liver, spleen, beneath the pleura, and in the parenchyma of the lungs, and on the surface of the dura mater. In the interior of the brain was a colloid tumor about the size of a hen's egg.

Finally, it is with some hesitation that I state that I have found bacilli in a single case of rapidly growing, not ulcerated, large-celled sarcoma of the occipital region occurring in a woman, and extirpated by Dr. Sands during the past year. The tumor tissue had been kept in 95 per cent. alcohol since the operation, and the sections were stained with fuchsin by a slight modification of De Giacomo's<sup>40</sup> method for staining the bacillus of Lustgarten. The modification consisted merely in more prolonged immersion in the staining fluid, and may not have been essential. Every precaution was taken in the way of using sterilized vessels, reagents, etc. Of two sections examined bacilli were found very sparingly in only one, and after prolonged examination. The examination was made with a Zeiss oil immersion one-twelfth and Virich eye-piece, No. 3; using, of course, the Abbe condenser. Though few in number, the bacilli found were very distinct, only one being situated in each cell, straight, and apparently somewhat longer and plumper in proportion to their length than the tubercle bacilli. I know well, of course, that little or no scientific value attaches to a single observation of the kind by one man, unsupported by

the evidence of any others, but mention it because it may acquire some if confirmed by future researches, and at least serves to show that my work is not all theoretical, but practical as well.

#### LITERATURE.

1. Ziegler, Lehrb. der Allg. und Spec. Path. Anatomie, &c., 1erth, S. 214, 2d aufl. Carc. und Luf., Dr. M. Nedopil, Med. Jahrbücher, 1883, S. 123.—2. Etiology of Tumors; Transactions of the Path. Soc. of Phila., Sept. 1879, to July, 1881, pub. 1882.—3. Formad, op. cit.—4. Nedopil, op. cit.—5. Formad, The Bacillus Tuberculosis, and some Anat. Points which suggest the Regulation of its Etiological Relation with Tuberculosis; Phila. Med. Times, Nov. 18, 1882.—6. Krit. Besprechung der Gegen die Bedeutung der Tuberkel Bacillen, Gerichteten Publicationen, R. Koch; Deutsche Med. Wochensch., Nov. 10, 1883.—7. A Criticism of Dr. Formad's Statements, etc., Shakespeare; N. Y. Med. Jour., Aug. 16, 1884.—8. Baumgarten, Zeitschrift für Klin. Med., Bd. ix.—9. Weigert, Deutsche Med. Wochenschrift, No. 35, 1883; quoted in Med. News, Oct. 10, 1885.—10. Doutrelefont, Ber. u. die Verhand. der Deutsch. Gesell. f. Chir., 1885; Diskussion ü. Tuberkulose, Volkmann.—11. Formad, Etiology of Tumors.—12. Volkmann, Chir. Erfahrungen ü. die Tuberkulose, Deutsche Gesell. f. Chir., 1885.—13. Zur Kasuistik der Traumatischen Tumoren, D. G. Zesas; Urenen Med. Wochenschrift, No. 40, 1883; see, also, C. Mazzoni, über die Sarkom. Archiv. di Medic. Chir., etc., anno vi. fasc. 40, 201-209; ref. in Centralbl. f. Chir., 1874, S. 169. Three Cases of Sarcoma after Operation, Dr. M. Landsberg, Zur Ätiol. und Prog., Intra and Extra Ocularen Sarcoma, Virch. Arch., lxxii. pp. 1-14, 1875. A Case of Sarcoma following an Acute Suppurative Iridochoroiditis. Dr. Rich. Barwell, On Acute Traumatic Malignancy, Brit. Med. Journal, Feb. 11, 1882, gives several cases of sarcoma directly after injury.—14. Weil, Sarcoma following repeated Irritation; Sarcoma Hæmorrhagicum, Prag. Vierteljahres, Chr. xxxiv. 4, p. 1, 1877; ref. in Schmidt's Jahrb., 185, S. 97.—15. The American Journal of the Med. Sciences, 142, p. 407, April, 1876.—16. Med.-Chir. Trans., xlvii., 1862; see, also, Dr. Geber, Epithelial Carcinoma des Penis Nach Coitus, Wien M. Presse, xii., 4 Jan. 1871; ref. in Schmidt's Jahrb., No. 160, p. 88. \* J. W. Hulke, Med. Times and Gaz., Feb. 8, 1873; ref. in Schmidt's Jahrb., No. 161, p. 75.—17. Formad, Etiol. of Tumors.—18. Cohnheim, Allg. Pathologie, 1877; quoted by Formad, Etiol. of Tumors.—19. Kaeg, Tuberkelbacilli in Einen Sog. Leichen Tuberkel; Centralbl. für Chir., 32, 1885, and G. Riekl, Centralbl., No. 36, 1885.—20. Abstract from Roosevelt Hospital History Book.—21. Schmidt's Jahrb., 126, p. 121; Meissner, Ueber Krebs.—22. Formad, Etiol. of Tumors; see, also, J. Kuhn, Gaz. Méd. de Paris, 1861, xvi. 263, 391, 406; Note Sur un Cas de Cancer Medullaire, Transmis par Inoculation d'un Animal à l'Homme. \* Gaz. d'Hôp., Paris, 1873; Hyverth, de l'Inoculation de Cancer Chez le Lapin. † Nicolai Tulpia, Amstidremensis, Observationes Medical, Ed. Nova (I.), IXL., xxii.; Amstidredami, Apud Danielem elis Evirium Observ., Med. Lib., iv. p. 292, 1672; N. Y. Hosp. Lib., No. 255. † N. Y. Med. Journal, Oct. 27, 1883. ‡ Ref. in Med. Record, Nov. 7, 1883, p. 547.—23. Prof. Klincke, Häasers Arch. f. die Gesammte Med., iv. 4, 1843; ref. in Schmidt's Jahrb., 126, S. 91.—24. Novinski, Zur Frage über die Lupfung der Krebsigen Geschwüste, Centralbl. d. Med. Wiss., 1876, xiv. 790. \* Gaz. des Hôp., 85, Juillet, 1867; ref. in Schmidt's Jahrb., 142, S. 97, R. Meissner. † Nedopil, op. cit.—‡ Dr. Fr. Ahlfeld, Leipzig, Beitrag zur Casuistik des Uterus Sarkome, Arch. f. Gynäk., vii. 2, p. 301, 1874; ref. in Schmidt's Jahrb., 184, p. 105, Meissner über Krebs.

§ Prof. Hegar, Arch. f. Gynäk., Bd. ii.; ref. as above.  
 || Spiegelberg, Arch. f. Gynäk., Bd. iv.; ref. as above.  
 —25. Virch. Arch., 51, 3, p. 391, 1870; ref. in Schmidt's Jahrb., 160, p. 75.—26. Ueber felthaltige Transudate, Prof. H. Quinckle, Bern. Deutsche Arch. für Klin. Med., xvi. 2, pp. 121—139, 1875; ref. in Schmidt's Jahrb., 169, S. 67.—27. Das Carcinoma, etc., C. Partsch, Breslau; ref. in C. f. Chir., 6, 1885.—28. Ueber die Entstehung Secundären Krebsgelschwülste Durch Lupfung. Centralbl. für Chir., 48, 1884.—29. Virchow, Die Krankhaften Geschwülste, B. i. S. 54.—30. Lücke, Die Lehre von den Geschwülsten, etc., Billroth and Pitha's Handbuch, B. ii., Abth. i. J. 50.—31. Kauffmann, Ueber Multiplicität des Primären Carcinoms, Virch. Arch., B. lxxx. S. 347. \* Weigert, Lupsis, Virch. Arch., B. lxxvii. S. 269, and B. lxxxviii. S. 307; Ueber Venen Tuberculosis und ihre Beziehung zur Tuberc. Blutinfection, und Deutsche Med. Wochenschr., No. 24, 1884; Neue Mittb. Ueber die Pathog. der Acut. Allg. Tuberculosis.—34. H. Beck, Beiträge zur Geschwülstlehre, Zeitschr. F. Heilkunde, 1884, B. v. H. 6; ref. in Centralbl. für Chir., No. 34, 1885.—35. A. Weichselbaum, Wien. Bacillen im Blute bei Allgemeiner Acuter Miliartuberculosis, Wien. Med. Wochenschr., 12 und 13, 1884.—36. Baumgarten, Tuberculosis by Injection of Blood, Centralbl. f. die Med. Wissenschaft, 15, 1881.—37. Raymond et Brodeur, La France Médicale, 1883; ref. in Lancet, March 31, 1883, p. 557, and N. Y. Med. Record, June 16, 1883.—38. Koenig, Ber. Der., xiii.; D. Chir. Cong. Wird eine Indication zur Gelenkresection bei Tuberculosis Burch die aus der Gelenkskrankheit Erwachsende Gefahr Allgemeiner Tuberculosis, Begründet? also Koenig, Tuberculosis der Knochen und Gelenke und Szuman, Briselement forced eines Scrofulös Entzündeten Kniegelenks, mit Konsekutiver Akuter Allgemeiner Miliartuberculosis, Centralbl. f. Chir., No. 29, 1885; P. Aubert, Le Traitement du lupus à l'Antiquaille, Annales de Dermat. et Syph., vol. iv. No. 3; ref. in Centralbl. f. Chir., No. 9, 1884, p. 132. Two Cases of Rapidly Fatal Phthisis Pulmonum, shortly after Scarification of Lupus.—39. Dr. Schweninger, Bayer. Aerzt. Intell., Bd. xxiii. 327, 1876; ref. by Meissner, Ueber Krebs. Schmidt's Jahrb., 184, p. 102.—40. Friedlander's Fortschritte der Medicin, No. 16, 1885, p. 543.

#### GENERAL LITERATURE.

Geh. Prof. Dr. Libert und Dr. Otto Wyss, Beiträge zur Experimental Pathologie der Heerdartigen, Einschreibenden, Disseminirten Lungentzündung, so wie der Uebertragung der sog. Tuberculosis Anderer Entzündlicher und Verschiedener Neoplastischer Producte vom Menschen auf Thiere, Virch. Arch., xl. pp. 142 und 532.

Billroth, Impfversuche mit Geschwülstelementen, Wien. Med. Wochenschr., 17, 72, und 73, Sept. 1867; ref. in Schmidt's Jahrb., 146, p. 326.

Richardson, quoted in Schmidt's Jahrb., ibid., as having undertaken experiments similar to Billroth's. with negative results.

Quinquaud, Inoculation du Cancer à Cobayes, Bull. Soc. Anat. de Paris, 1868, 540; reported successful inoculation, very probably tuberculosis. Doutrelefont. Bonn. Versuche ueber der ueber Tragung der Carcinoma von thier auf thier, Virch. Arch., 1869, xl. p. 501. Failed to inoculate; good historical summary.

Meissner, Ueber Krebs. Schmidt's Jahrb., 160, p. 65; Case of Carcinoma of the Liver following Trauma. Dr. Geher. Epithelial Carcinom des Penis nach Coitus, Wien. Med. Presse, xii. 4 Jan. 1871; ref. in Schmidt's Jahrb., 160, p. 88. Two cases from Prof. Zeissl's service, running rapid course, resembling an acute inflammatory process.

Dr. M. Landsberg, Berlin, Zur Ätiol. und Prognos

Intra und Extra Ocularen Sarcoma, Virch. Arch., lxiii. pp. 1—14, 1875. Sarcoma of the eye after an acute suppurative process.

Dr. A. P. Gerster, Specimens Illustrating the Traumatic Origin of Cancer, N. Y. Med. Record, 1881.

Dr. R. F. Weir, Scirrus of the Penis, following a contusion received four months previously The Am. Journ. of the Med. Sciences, 142, p. 407, 1876. No microscopic examination, but a similar case reported by Holmes Coates, Med. Chir. Transactions, xlvi, 1863.

Nicaise, de la Greffe Cancéreuse, Rev. de Chir., ii. p. 841, 1883.

Nicaise, de la Contusion et de l'Inflammation Comme Causes de Prédisposition Locales au Développement du Cancer Secondaire, Rev. de Chir., No. 9, 1885, p. 705.

Barette, de l'Influence des Contusions Répétées sur la Développement des Tumeurs Malignes des Os, Rev. de Chir., No. 4, 1885, p. 288.

Dwight, Disappearance of Tumors, Boston Med. and Surg. Journ., Dec. 1880, p. 562. Gives no cases of spontaneous disappearance of undoubtedly malignant tumor, except one by Paget of "multiple medullary carcinoma" (small-celled sarcoma), where microscopic examination was made.

J. Snow, Zur Lehre von der Ätiologie der Neubildungen, Centralbl. für Chir., No. 43, 1884; ref. Herbert Snow, Etiology of Cancer, Lancet, 1881; ref. in Med. Record, vol. xix. p. 196, 1881. Prof. Bollinger, Epithelioma Contagiosum Beim Haushuhn, Virchow's Arch., 58, p. 340; ref. in Schmidt's Jahrb., 161, p. 296, describes a highly contagious disease in the common fowl, characterized by the appearance of numerous small tumors, having the exact histological structure of epithelioma. Dr. V. Izquierdo, Santiago, Chile, Spaltpilze bei der Verruga Peruana, Virch. Arch., Bd. 99, H. 111, 1885, p. 411. "The disease is a contagious one, endemic in Peru, characterized by the formation of small multiple tumors in the skin. The author summarizes as follows: 1. "The tumors which form in the skin of those affected by the 'verruca' are true neoplasms of the connective tissue, which always develop in the skin or subcutaneous connective tissue." 2. "Their structure is very similar to that of the sarcomata; in many parts are found which consist only of cavernous tissue." 3. "In these neoplasms, a special variety of microorganism (Spaltpilze, described as bacilli) is found in great quantity, either lying between the anatomical elements, cells, or fibres, or contained in the bloodvessels, which they sometimes completely obstruct," etc.

Dr. Belleli, Alexandria, Progrès Médicale, No. 30, 1885; ref. in Lancet, Sept. 15, 1885, p. 300, describes a fibro-adenoma of the rectum, apparently produced by the presence of the ova of Bilharzia, in the tumors. This structure of the tumors in these cases is homogeneous and regular, because of the non-development of the ova; that a continued and increasing source of irritation would have resulted in the formation of a typical epithelial growth—a true cancer.

Broca, Anat. Pathologique du Cancer, Mém. Acad. Roy. de Méd. Paris, 1852, xvi. 453—820.

Sanchau, Recherches sur le Cancer, Comptes Rendus de l'Acad. des Sciences, 1842, p. 755.

Hutchinson, The Successful Cultivation of Cancer, Clin. Lect. and Reports, London Hosp., 1865, ii. 342.

Suesserott, Is Cancer Inoculable? Phila. Med. Times, 1880, x. p. 614.

H. T. Butlin, Malignant Disease Parasitism, Brit. Med. Journ., Jan. 12, 1884.

Origin of Tumors and Cancers, McGraw, Medical Record, Aug. 8, 1885.

Dr. A. Brault, De l'Origine Non-bacterienne de Carcinome, etc., Arch. Gén. de Méd., Octobre, 1885, p. 458. Rev. Crit. (not completed in October number).

Dr. A. V. Winiwarter, Beiträge zur Statistik der Car-

cinome, etc., Monog., 1878; ref. in Schmidt's Jahrb., 190, S. 41.

Dr. Oldekop, Statistische zus Ammenstell, von 250 Fallen von Mamma-carcinom. Langenb. Arch., Bd. xxiv. S. 581 und 691.

Zur Statistik des Mamma-carcinom, von Dr. Guido v. Zörök und Dr. R. Wittelsöfer. Langenb. Arch., Bd. xxv. S. 873.

Dr. Roger Williams, Hered. in Cancer, Brit. Med. Journ., May 31, 1884, p. 1039.

Gräwitz, Ueber die Entstehung Krankhafter Geschwülste. Deutsche Med. Wochenschr., Nos. 13 und 14, 1885; ref. in Virchow's Jahresber., ü. d. Leist. und Fortschr., in des Ges. Med., 1884, B. i. Abth. 2.

\* OBSERVATIONS  
ON SUNSTROKE AND HEAT EXHAUSTION,  
BASED ON THE RECORD OF FIFTY CASES ADMITTED  
INTO THE PENNSYLVANIA HOSPITAL FROM  
THE MIDDLE OF JULY TO THE MID-  
DLE OF AUGUST, 1885.<sup>1</sup>

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In presenting this paper to the medical profession, the writer deems it proper to state that it is done solely with a view to call attention to the therapy of the cases of sunstroke and heat exhaustion which were received into the Pennsylvania Hospital during the months of July and August, for he cannot help feeling that a line of treatment which will bring about favorable results when the temperature has risen to 112° F., is worthy of being recorded.

He acknowledges his indebtedness to Dr. Joseph Kirkbride, who was physician-in-charge of the medical wards of the hospital during the summer months, for permission to publish the results of the cases.

The first patient was admitted on the 16th day of July; the average of the thermometer being 95° F. in the shade.

The second case of sunstroke was received July 17, when the thermometer stood at 99.5° F. in the shade. This man was brought in at 11 o'clock A. M. He had fallen whilst employed in loading his cart with dirt.

He was unconscious and very restless. His breathing was noisy and labored; respiration 27; pulse 165, strong and full. Temperature 109° F.

He was at once immersed in a tub of ice-water, and removed when the temperature fell to 99° F. He was then put to bed and covered with a sheet saturated with ice-water. Ice was applied to his head. A hypodermic of tincture of digitalis (m, xx), with an anal injection of antipyrin, was administered.

At 11.30 a tendency to convulsions was observed. The temperature was reduced to 102° F. A second injection of antipyrin of gr. xx was ordered, which had the effect of reducing the temperature to 99 $\frac{1}{2}$ ° F.

Two hours after admission the patient began to regain consciousness, but he appeared to be greatly alarmed, and feared that those about him would do him bodily harm. He very soon became violently delirious, and a state of acute mania was developed.

<sup>1</sup> Communicated to the College of Physicians of Philadelphia, October 7, 1885, by J. M. Da Costa, M.D.

He was cupped at the nape and behind the ears, and about ten ounces of blood were drawn. He now became quiet, when a quarter of a grain of morphia was administered hypodermically.

After the administration of the second dose of antipyrin the temperature never exceeded 99° F. The patient was discharged cured on the ninth day.

The individual who was brought to the hospital on the 21st of July was admitted at 2.30 P. M.; the thermometer at the time stood at 100° F. in the shade. His friend stated that whilst assisting in laying the street cable he suddenly complained of violent headache, which was followed by vomiting. He drank freely of ice-water and fell unconscious on the street.

When admitted he was completely unconscious; his breathing was labored; his pupils dilated; his skin was of a dark reddish hue; the capillaries filling very slowly when emptied by pressure.

His temperature was 112° F.; pulse 162, and irregular; respiration 33. His sphincters were relaxed, accompanied by involuntary discharges of feces.

*Treatment.*—At 2.45 P. M. he was packed in ice and a bucket of ice-water sprinkled over him with more or less force. Five minims of aqua ammonia, with twenty minims of whiskey, followed by twenty minims of tincture of digitalis, were administered hypodermically. In fifteen minutes the temperature was reduced to 99 $\frac{1}{2}$ ° F.

The ice-water was now removed; he was then covered with a sheet wrung out of ice-water; ice being at the same time applied to the head. His respirations were quick and shallow.

He was now given one-sixtieth of a grain of atropia, together with twenty-five minims of whiskey. By 3.10 P. M. the temperature had risen to 104 $\frac{1}{2}$ ° F. His pulse being weak, the hypodermic of aqua ammonia and whiskey was repeated, and forty grains of antipyrin were administered per anum. At 3.30 P. M. the temperature was 99 $\frac{1}{2}$ ° F., a hypodermic of ether was administered, and the patient was again covered with a wet sheet. At 7 o'clock he was slightly conscious, when he was given ten drops of tincture of digitalis, with a hypodermic of twenty minims of whiskey, repeated every fifteen minutes. At 8 o'clock the whiskey was omitted and a small quantity of pancreatinized milk, with lime-water, ordered. At 9 o'clock calomel (gr. x), bicarb. soda (gr. x), and bromide of sodium (gr. xxx) were given; the last-named article to be repeated every third hour.

The patient was somewhat dazed for two or three days; he was discharged cured on the twelfth day after admission.

On the same day, July 21, a farmer, who had been working in the sun, was admitted. He had driven his wagon to market, and on reaching Front Street was seized with a violent headache, accompanied by sickness at the stomach, for which he took a large dose of whiskey, and fell to the floor unconscious as soon as the liquor was swallowed.

At 1.30 P. M. he was brought to the hospital. On admission his temperature was 109° F.; pulse 158; respiration 30; pupils contracted; involuntary discharges of feces.

He was at once placed in an ice bath and given

twenty minims of tincture of digitalis with one-sixtieth of a grain of atropia. His temperature fell to  $99^{\circ}$  F., when he was removed to bed and covered with an ice-water sheet; his temperature soon rose to  $104^{\circ}$  F. Antipyrin, sixty grains per annum, was ordered, and in addition twenty minims of whiskey, hypodermically, every fifteen minutes were administered.

An hour and a half after admission the patient was seized with violent convulsions. A half of a grain of morphia, with one sixtieth of a grain of atropia were administered. He was then placed under the influence of ether. The convulsions continued for the space of an hour, when the administration of musk, in ten-grain doses, per annum, was resorted to. The convulsions entirely ceased after the administration of the third dose of musk.

The individual gradually became conscious. Two days after admission meningitis was developed. He remained in the hospital under treatment for six weeks, when he was discharged cured.

On the 24th of July a woman, who was a cook, was received into the hospital suffering from heat exhaustion. She was a strong, healthy-looking German. When admitted her temperature was  $110^{\circ}$  F.; pulse 160; respiration 35.

For the first hour after her admission she was treated by Dr. Horwitz; after that she came under the care of Dr. Penrose. She was at once wrapped in a wet sheet, surrounded by pieces of ice, and ice-water was sprinkled over her. A hypodermic of aq. ammon. fort. (gtt. v.), tinct. digitalis (gtt. xxv), and subsequently a hypodermic of atropia sulph. (gr.  $\frac{1}{60}$ ), were administered. Under this treatment her temperature fell to  $99^{\circ}$ ; pulse 80; respiration 25.

The patient vomited and purged continually. Sinapsisms were applied to the chest, abdomen, and thighs, which caused marked reaction. After this, hypodermics of tincture of digitalis (m. x) and ether (m. x), and a suppository of ten grains of carbonate of ammonia, were administered. Ice was kept to the head constantly. This line of treatment was continued for fifteen hours. The temperature did not again rise above  $100^{\circ}$  F.

The patient slowly and gradually recovered, but did not begin to move about the hospital yard until September 19.

July 26th, a laborer was admitted, who had fallen to the ground whilst engaged in paving the streets.

When received he was unconscious; his breathing was stertorous; pupils contracted; temperature  $108\frac{1}{2}$  F.; pulse 159; respiration 30; bowels relaxed; he vomited immediately after admission.

An ice-water bath was at once prescribed; a hypodermic of five drops of aqua ammonia administered, followed by tincture of digitalis, m. xx. In fifteen minutes his temperature fell to  $99^{\circ}$  F.

He was removed from the tub and covered with a sheet wrung out of ice-water. Ice was applied to his head. His respiration being short and rapid, one-sixtieth of a grain of atropia was ordered. Ether, twenty minims, hypodermically, was administered, and dry cups were applied to the posterior base of the lungs. His temperature now rose to  $103\frac{1}{2}$  F., when antipyrin (gr. xxx) was administered per annum.

One hour after admission the patient was seized with violent convulsions, for which was prescribed one-half of a grain of sulphate of morphia hypodermically, and he was placed under the influence of ether.

The tendency to convulsions continuing, a suppository of thirty grains of musk was ordered; to be repeated every half hour.

Under the influence of the first dose of antipyrin the temperature fell to  $99\frac{1}{2}$  F.; at the end of a half hour the temperature again rose to  $104^{\circ}$  F. Sixty grains of antipyrin, dissolved in eight ounces of ice-water, per rectum, were ordered, with the effect of reducing the temperature to  $99^{\circ}$  F.

About three hours after his admission he became conscious, when he was given calomel (gr. x) with bromide of sodium (gr. xxx); the latter to be repeated every three hours. The patient was discharged cured August 8.

The foregoing are presented as types of the fifty cases that were admitted into the Pennsylvania Hospital during the months of July and August, with a synopsis of the treatment pursued.

Of those received into the hospital, twenty-four were cases of sunstroke, and twenty-six suffered from heat exhaustion.

Of the twenty-four cases of sunstroke, nine died. Three died within ten minutes after admission, and cannot fairly be said to have been subjected to treatment in the institution.

Four died within six hours after admission. Two died forty-eight hours after admission.

Of the nine that died, four were hard drinkers; two were strictly temperate, and three drank in moderation. Twenty-one out of the twenty-four had violent convulsions; one had acute mania, lasting one hour and a half.

The maximum temperature was  $112^{\circ}$  F.; this patient recovered.

The minimum temperature was  $94\frac{1}{2}$  F., this was a case of heat exhaustion.

Twenty out of the twenty-four cases of sunstroke occurred between July 16 and July 26.

The largest number received on any one day was on Wednesday, July 22, when nine cases were admitted. The thermometer on that day stood at  $93\frac{1}{2}$  F. in the shade; on the two previous days it rose to  $100^{\circ}$  F. in the shade.

But two opportunities for post-mortem examinations presented themselves. In one case, which resulted in death ten minutes after admission, the temperature being  $109^{\circ}$  F., congestion of the lungs and kidneys was found to exist, with slight injection of the arachnoid and pia mater. In the remaining case, the individual dying two days after admission, there were presented the usual evidences of commencing meningitis.

On examination of the blood, the corpuscles were found shrivelled in a few cases, but in a majority the microscope revealed no change.

Albumen was present in the urine in all but two cases, and this condition continued for two or three days after convalescence.

*Treatment.*—The antipyrin was used in all cases, in large doses, with the effect to keep down the tem-

perature after it had been reduced by the application of ice, ice-bags, and ice-sheets to the surface; it was employed in the form of enemata, but the writer suggests that it would probably be more potent if used hypodermically. It was not resorted to unless the temperature showed a decided tendency to rise.

*Musk* seemed to be decidedly advantageous in controlling the violence of the convulsions; it was administered in doses of ten grains, and by the time the ten grains were given the convulsions, as a rule, ceased. This remedy was administered in sixteen out of twenty-one cases of convulsions, and in all of these it was of marked and immediate benefit; the violence of the attack was rapidly abated, and soon ceased to exist.

*Aqua ammonia*, in doses of five drops, repeated as occasion required, doubtless saved several cases, when the patient was about to die from heart failure, when the heart-sounds were indistinct, and when the pulse at the wrist could with difficulty be felt.

*Ether* hypodermically acted as a better stimulant than whiskey; administered by inhalation it controlled the convulsions, acted as a heart stimulant, and improved respiration in a marked degree.

*Bloodletting*.—One individual was bled from the arm to the extent of twelve ounces; he died two days after from meningitis. Four persons were cupped at the nape or behind the ears; about eight ounces were abstracted in each case. They all recovered.

The individuals in whom bloodletting was resorted to were all strong, full-blooded, heavy men, with injected conjunctiva, the veins of their necks standing out prominently; the pulse being full and bounding; convulsions setting in early.

*Dry cups*, employed in the sunstroke cases, were valueless; but, in those affected by the heat exhaustion, the benefit was well-marked and immediate, the patients *invariably* regaining consciousness after their application.

*Tincture of digitalis*, in twenty minim doses, administered when the patient was first seen, acted as an excellent heart stimulant. The pulse at once became fuller and slower, the heart beating more regularly.

*Quinine*, used after antipyrin had caused the temperature to drop, was of marked benefit.

When the patients became conscious, *calomel* (gr. x) and *bromide of sodium* (gr. xxx) were administered,—the latter repeated every third hour for the space of forty-eight hours, or longer, depending on the condition of the patient.

## MEDICAL PROGRESS.

**TREATMENT OF THE PEDICLE IN HYSTERECTOMY.**—*Pozzi*, in a paper read at the late meeting of the French Surgical Congress, maintained that the treatment of the pedicle after hysterectomy must be essentially different from that followed in ovariotomy:

1. Because septic infection through the cervico-uterine canal can readily occur.
2. Because of the difficulty in controlling hemorrhage.

In conclusion the following suggestions relative to the operation were presented by the writer:

1. If the cavity of the uterus is not opened and the

pedicle bleeds but little, the intraperitoneal method of treating the pedicle is to be adopted, with sufficient suture of the edges of the wound and folding of the peritoneum, according to the method of Schröder.

2. If the cavity of the uterus is opened, and the pedicle is too short and thick for the extraperitoneal method, but does not bleed excessively, it should be ligatured with silk and dropped.

3. If the cavity of the uterus is opened and the pedicle bleeds but little, but is sufficiently long, the extraperitoneal method is to be preferred. The elastic ligature is an advantageous substitute for the iron wire.

4. In cases in which the pedicle bleeds extensively, but is long enough to prevent the extraperitoneal treatment, this is preferable, and the elastic ligature alone gives perfect security against hemorrhage.

5. In cases in which the pedicle bleeds excessively and is too short for the extraperitoneal treatment, the intraperitoneal method is necessary, whether the cavity of the uterus has been opened or not.

The elastic ligature dropped into the peritoneal cavity alone insures the avoidance of hemorrhage.

6. Numerous observations (Olshausen, Hegar, Kaltenbach, Fischer, Ahlfeld) have demonstrated that the elastic ligature can be dropped into the peritoneal cavity without unfavorable result.

7. Retaining cords of caoutchouc, one-fifth of an inch in diameter, are best adapted for the operation.

The application will be much facilitated by the elastic ligature.

8. The temporary application of the elastic ligature facilitates the removal of all abdominal tumors. By the use of a temporary ligature around the pedicle, and in some cases of two others around the broad ligaments, the operation is almost bloodless.—*Centralblatt für Gynäkologie*, September 26, 1885.

**RESECTION AND SUTURE OF THE MEDIAN NERVE.**—*DR. SURMAY*, in a communication to the Academie de Médecine de Paris, recounting the history of a case of resection and suture of the median nerve in which immediate reunion occurred with the prompt reestablishment of function, with the exception of sensibility to pain and temperature, which, however, were ultimately restored, reached the following conclusions:

1. That the simple hypertrophy of traumatic origin of the neurilemma may determine the abolition of the function of the nerve.

2. That resection of the diseased part and suture of the two ends of the nerve can be followed by immediate reunion.

3. That immediate union may be accompanied by immediate reestablishment of the function of the nerve.

4. That in the restoration of the function of the nerve, general sensibility, tactile sensibility, sensibility to pain and to temperature, may not occur, and that the same may be true of motor and trophic functions.

5. That tactile sensibility may be entirely reestablished, while general sensibility is not to the same degree.

6. That general sensibility and tactile sensibility may be fully reestablished, while sensibility to pain and temperature remains abolished.

7. That restoration of sensibility to pain and temperature may succeed, and that when this occurs sen-

sibility to pain, may precede that of temperature.—*Archives Générales de Médecine*, October, 1885.

**THE TREATMENT OF THE PEDICLE IN HYSTERECTOMY AND OVARIOTOMY.**—KÖBERLÉ, *Journ. de Sociétés Sciens*, 1885, No. 18, in a discussion of the treatment of the pedicle in ovariectomy and hysterectomy, held the view that the common results in ovariectomy are not traceable to antisepsis alone, but to simplification of the operative technique, namely, upon the extraperitoneal treatment of the pedicle.

By the application of the *serre-nœud*, it was held, septic material forced itself along the pedicle into the abdominal cavity, and the shortness of the pedicle frequently caused pressure upon the abdominal walls, thus impeding circulation.

The dropping of the pedicle into the abdominal cavity obviates all these difficulties. The skin wound heals by first intention: septic infection, accident with the pedicle, strangulation of the intestine, and abdominal hernia seldom occur, while healing quickly occurs. The controlling of hemorrhage is a point requiring special care.

For this purpose cauterization of the pedicle is to be recommended, nevertheless several ligatures are to be applied. In one hundred ovariectomies, in which the extraperitoneal treatment of the pedicle was used, Köberlé stated his mortality to be eleven, while in seventy-four cases in which the pedicle was dropped into the peritoneal cavity but five deaths occurred. The ligature must be made of Chinese silk, and firmly knotted.

In the operation of hysterectomy Köberlé held that dropping the pedicle is only practicable when it is not too thick; when this condition exists, the extraperitoneal method must be adopted.—*Centralblatt für Gynäkologie*, No. 59, 1885.

**TREATMENT OF HEMORRHOIDS BY FORCED DILATATION.**—DR. ROSIÈRE, in an inaugural thesis, discusses the treatment of hemorrhoids by forced dilatation, and considers the indications for this measure to be the existence of pain and hemorrhage.

As a permanent cure for the condition, its efficiency is not satisfactorily proven, but it possesses the advantage of being applicable in cases where diathesis enters into the question of treatment.

The treatment of hemorrhoids by cauterization, as successfully managed by Professor Richet by means of a forceps combining the advantages of the cautery and écraseur, is highly commended, and described. The first step is to draw down the hemorrhoidal tumor, and surround it with a moistened pad to protect the buttocks from the heat of the cautery. The tumor is then perforated in three points with copper wire, care being taken to permit tissue to intervene between the wires, in order to prevent retraction. Each of the pediculated points is then compressed by the jaws of the forceps brought to a red heat, and the hemorrhoids give place to small dark stumps, no thicker than a sheet of paper.

This method of treatment has been followed by Prof. Richet in 160 cases without a single death. As a radical cure it is preferable to all other operations, and particularly to forced dilatation, which is frequently unsuccessful, and which is best adapted to those cases in

which a surgical operation is feared by the patient.—*Revue de Thérapeutique*, October 1, 1885.

**THE HÄMOSTATIC USE OF ANTIPYRIN.**—E. CASATI (*Raccolto medico*, August, 1885) reports the successful application of antipyrin in four and five per cent. solutions, as a haemostatic. The results attained by its use seem to warrant the following conclusions:

1. Antipyrin is powerful haemostatic.
2. It is superior to perchloride of iron because after its use the wound remains entirely clean.
3. It is superior to ergot because only in extremely large doses does it manifest a toxic action, while according to Huchard it exerts a haemostatic action whether applied directly to the bleeding part or administered internally.
4. In many cases it is to be preferred on account of its antipyretic as also perhaps for its antiseptic effect.
5. The haemostatic action is manifested in a very short time.
6. Further observation is necessary to determine its value in controlling secondary hemorrhage.—*Gazzetta degli Ospitali*, September 30, 1885.

**RESORCIN IN THE TREATMENT OF GONORRHOEA.**—DELLERBAUGH recommends the use of resorcin combined as follows, in injections, for the cure of gonorrhœa:

R.—	Zinc. acetatis . . . .	gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$
	Acidi boracici . . . .	gr. xx.
	Resorcin . . . .	3j.
	Aqua dest. . . .	f $\frac{1}{3}$ iv.—Misce.

S. Inject two drachms three times a day.—*Revue de Thérapeutique*, October 1, 1885.

**A NEEDLE FOUND IN THE CAVITY OF THE CRANUM.**—RUDOLF V. HÖSSLIN, in the *Deutsch. Archiv für klin. Med.*, Bd. xxxvi. Hft. 5 and 6, reports the case of a man, aged 52 years, in whom a rusty needle was found upon the dura mater, at a point corresponding to the posterior superior angle of the parietal bone. One end of the needle had perforated the dura and reached the parietal convolution without occasioning any change in the cerebral tissue. The fixation of the needle had occurred through proliferation of connective tissue. No abnormality was discoverable in the bone, or in the soft tissues.

V. Hösslin further calls attention to four cases, previously reported, in which needles have reached the cranial cavity by an unknown path, and in which no notable changes were produced by their presence.—*Centralblatt für klin. Med.*, October 3, 1885.

**PORRO'S OPERATION.**—DR. ANDRONICO BARSOTTI, on September 2d, in the Maternità di Lucca, performed a Porro's operation, which resulted successfully, the lives of both mother and child being saved.

The presence of extreme deformity, due to osteomacia, necessitated the operation, which was performed early in labor, and with strict antiseptic precautions.

The uterus was incised *in situ*, and compression of the pedicle made by an iron wire fixed upon a Cintrat's *serre-nœud*.

The operation lasted forty-five minutes. The ligature came away on the eleventh day, and the patient's temperature, subsequent to the operation, was normal.—*Gazzetta Medica di Torino*, October 5, 1885.

BRONCHIECTASIS AND TUBERCULAR ADENOPATHY AS COMPLICATIONS OF PULMONARY TUBERCULOSIS.—H. TOUSSAINT, in reporting a case of typhoid fever complicated with bronchiectasis, pulmonary tuberculosis being also present, concludes:

1. That the antagonism between pulmonary tuberculosis and bronchiectasis is not so absolute as has hitherto been admitted.

2. The laryngeal complications occurring in convalescence from typhoid fever are often more serious than is suspected.

3. Laryngoscopic examination does not permit a complete diagnosis. The nature of the vegetations will best be shown by search for the bacillus tuberculosis.

4. The early performance of crico-tracheotomy may alone be able to restore typhoid patients in whom suppuration of the cricoid cartilage has occurred.—*Archives de Médecine et de Pharmacie Militaires*, Sept. 1, 1885.

ANÆSTHETIC ACTION OF APOMORPHIA.—O. BERGMEISTER and E. LUDWIG (*Centralblatt für die Gesammte Therapie*, Hft. 5, 1885) have recently experimented on numerous drugs with a view to discover whether there is possessed by any, an anæsthetic action similar to that exhibited by cocaine.

Crystallized apomorphia, free or in combination with organic or inorganic acids, was found to possess anæsthetic properties, the amorphous preparation of the drug being inert.

Experiments with the first-named preparation showed that a 1 to 2 per cent. solution, in quantity of from six to eight drops, when applied to the eyes, produces as a rule complete anæsthesia of the cornea and conjunctiva, the effect continuing from five to ten minutes. Along with the anæsthetic effect were present mydriasis and diminution of the conjunctival secretion, even to dryness (xerosis).

Unpleasant effects were further noticed, such as nausea, vomiting (in dogs), and a feeling for several hours of weight and numbness in the hands and feet—symptoms, though variable, which exclude the drug from the range of useful anæsthetic agents.—*Centralbl. für Klin. Med.*, October 3, 1885.

CHANCROUS BUBO.—DIDAY, in a note communicated to the Société de Chirurgie, agrees with M. Hourteloup in supporting the views of the occurrence of virulent bubo by absorption, and refers to his own case as one in point. M. Diday, many years ago, inoculated himself on the sheath of the penis with chancrous pus, the result being a chancre which subsequently became phagedænic, and was accompanied by a chancrous bubo. Neither M. Diday nor M. Hourteloup denies that some virulent buboes are due to accidental inoculation of the open surface after opening, but both authors contend that such cases are exceptional. To those who consider them the rule, M. Diday puts the following questions: 1. The treatment of buboes of all kinds by blistering being so common, why do not those blistered surfaces become inoculated? 2. If a bubo after incision were inoculated from without, the chancrous erosion ought to start from the point touched by the pus, whereas the chancrous characters always show themselves simultaneously throughout the whole extent of the incision.

3. When the edges of an open bubo become chancrous, this transformation of a simple wound into a specific ulcer occurs always about the fifth or sixth day. Now, if this change is due to accidental inoculation of the wound, why does it never take place after the first week? 4. Besides buboes, of which one may predict that they will become chancrous, there are also strumous buboes, of which one may say with confidence that they will not become so. A patient with such a bubo has also a chancre (*chancrelle*). He is in a venereal hospital, exposed to all kinds of risks of accidental inoculation, yet the bubo that is strumous in its origin remains strumous to the end.—*The London Medical Record*, Oct. 15, 1885.

TREATMENT OF GONORRHEAL HÆMATURIA.—DR. HOROVITZ remarks, in the *Viertelj. für Derm. und Syph.*, Heft 1, 1885, that acute or subacute gonorrhœa in the male is not infrequently complicated by hæmaturia. Thus, in 70 cases which came to the venereal department of Professor Auspitz's clinic in Vienna, during three months, there were 7 of hæmaturia. For cases in which the blood comes from the posterior part of the urethra or neck of the bladder, when the ordinary means fail, the author recommends the passage of a Nélaton's soft catheter, No. 6 or No. 7 in size, and its retention for 24 or 48 hours, the former period being usually long enough. As hemorrhage of a kind requiring such treatment does not come on as a rule until the end of the third week, the sensitiveness of the urethra has to some extent subsided, and the author has found that the catheter can be borne without much inconvenience. As regards the objection that the presence of the instrument may set up cystitis, Dr. Horovitz is of the opinion that such a complication cannot happen if a smooth, properly cleansed, and aseptic instrument be employed. The author states that he has adopted this plan of treatment in several cases with success, and that no disagreeable after-effects have ever followed its employment.—*The London Medical Record*, Oct. 15, 1885.

RELATIONS OF THE PATELLA REFLEX WITH DIPHTHERIA AND ITS CONSECUTIVE LESIONS.—BERNHARDT (*Virchow's Archiv*, vol. 99, 1885), in a critical research founded upon the literature of the subject and a series of twenty-one observations, makes the following statement of the relations existing between the patella reflex and diphtheria:

1. In a great number of patients who have experienced an attack of pharyngeal diphtheria, after some weeks the patellæ reflex is found to have disappeared.

2. Although in these cases the diphtheritic attack was for the most part severe, and was, together with the ordinary paralytic phenomena of the palatine muscles and of the eyes, accompanied by other notable disturbance of the central nervous system (general paresis, weakness, and ataxia), such was not always the case, since even in patients in whom the course of the disease was benign, disappearance of the patella reflex was observed.

3. Although the phenomena observed by Westphal (absence of the patella reflex), as certain observations of the author demonstrate, may be manifested only six

or eight weeks after the commencement of the disease, the presence of the patella reflex, from five to eight weeks after the recovery from the disease, as certainly happens, does not guarantee that the patella reflex will not disappear later, and that he who, up to this time, has remained free from serious disturbance of the central nervous system, will not ultimately suffer therefrom. On the other hand, the patella reflex may not be found a few weeks (three or four) from the commencement of the disease, while the patient, save the paralysis of the veil of the palate and slight disturbance in the function of the arches, feels perfectly well, and may remain permanently free from grave complications.

4. The disappearance of the patella reflex after diphtheria appears frequently to occur only on one side; likewise, in its restoration, it seems regained only on one side, or at least is plainly stronger on one side than on the other.

5. Disappearance of the patella reflex having once occurred, its absence may be remarkably persistent (five or six months), even when the patient, having been cured, presents no other symptoms of having suffered from the disease, such as ataxia or paresis.

6. This fact appears to possess certain importance in those researches which tend to establish the presence or the absence of the patella reflex in persons restored to health, who, having suffered from an attack of diphtheria, cannot be enumerated among the cured until after five or six months.

7. Whether the patella reflex may not only be preserved during the first five or eight weeks after the disease, as certainly happens, but for months, or in a word is never lost, the author has not yet been able to establish with certainty.

8. The cutaneous reflexes and the tendon reflex are not affected to an equal degree; the former are frequently found active, while the latter fail entirely, a fact which, observed even in tabetics, leads, according to the author, to the conclusion that the processes for the production of these so-called tendinous reflexes are distinct and not yet as sufficiently investigated, as those noted in the production of cutaneous reflexes.

9. The observations upon the disappearance or failure of the tendon reflex after diphtheria, have special value when the functions of the quadriceps extensor femoris are intact, when atrophy does not exist, and when the electrical excitability of this muscular group has suffered no profound disturbance and the patients are able to extend the leg freely and vigorously.

As to the explanation of this condition, that it may develop from the effect of acute infectious diseases, the author agrees with those who believe that it probably depends upon a disturbance of the function and nutrition of certain portions of the central nervous system, depending upon the emigration or development of germs.

The loss of the tendon reflex and ataxia are not in direct relation with each other. Both symptoms may be distinct and isolated. Tabes and diphtheria resemble each other in the fact, that the loss of the tendon reflex precedes ataxia, and frequently is manifested only on one side; but in diphtheria ataxia either follows in a few weeks or is entirely absent, while in tabes it frequently is not manifested until after the lapse of some years. A further distinction is, that the tendon reflex, when lost as a result of diphtheria, very generally is re-

established—an occurrence extremely rare in tabes.—*La Medicina Contemporanea*, September, 1885.

THE IMMEDIATE IMPROVEMENT OF HEARING FOLLOWING DIVISION OF CICATRICES IN THE MEMBRANA TYMPANI.—H. BENDELACK HEWETSON, acting upon the suggestion of Professor Politzer, that the hearing may frequently be improved by dividing the cicatrical band in the membrana tympana resulting from healed perforation, reports two cases in which the operation was performed with favorable result. He says:

The first case in which I performed the operation was in a hospital patient of mine, attending my aural clinic at the Leeds General Infirmary. He came under treatment in March, 1884, and was then suffering from chronic otorrhœa following suppurative otitis, with a perforation in the left membrane, about the size of a No. 4 shot, straight below the handle of the malleus. So soon as the discharge was healed (under treatment by injection of a one in sixty solution of carbolic acid, after which iodoform was blown into the ear, which took place in two months and a half), it was evident that the boy did not hear so well. Originally, the discharging ear was the better of the two, the hearing in the other being almost lost from neglected chronic catarrhal deafness, associated with attacks of catarrhal otitis in childhood, but without a perforation in the tympanum. I waited some months, in order to give the cicatrix time to contract to the full; and, in February last, seeing that there was no improvement in the hearing, I divided the semilunar cicatrical band, where it was visibly the thickest, in two places, by means of a Gräfe's cataract knife. Before doing so I carefully tested his hearing. With the right ear he heard my watch at two inches distance, and not at all with the opposite ear. Immediately after division he heard the same watch six inches off, and could hear conversation much more easily, although he could not hear a whisper.

The sections in the membrane were about  $\frac{1}{2}$  of an inch deep, and they visibly gaped, thus showing clearly the way in which the hearing became improved, namely, by releasing the cicatrical drag on the handle of the malleus. Testing the hearing a month from the operation, I found the hearing-distance from the watch still the same, but I thought that he did not hear conversation quite as well.

The second case which I have to report was in the person of a man, aged 52, who had had suppurative otitis at 14, during an attack of scarlet fever. In the left ear there was a thick semilunar cicatrical band surrounding the space formerly occupied by a perforation. The watch was heard only on close and firm pressure; but, on division of the cicatrix, slightly away from the ear, about a quarter of an inch. The most marked improvement, however, was for conversation, the man volunteering at once that the voice-sounds were heard much louder with this ear, which previously was almost useless for conversational purposes.

I only operated on the second case a fortnight ago, but, up to now, he says that his worst ear is the best. In this case I only divided the cicatrix once, to the extent of  $\frac{1}{16}$  of an inch, about the centre of the semilunar curve.—*The British Medical Journal*, October 17, 1885.

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SATURDAY, OCTOBER 31, 1885.

### ŒDEMA OF THE LUNGS.

ŒDEMA of the lungs is met with, first, as part of an inflammatory process accompanying pneumonia, abscess, gangrene, and other morbid processes; second, as a lesion limited to the posterior portions of the lungs, and evidently induced during the act of dying, constituting hypostatic œdema; and, third, as a widespread general infiltration of the organs. The fluid is usually effused into the alveoli, but Posner has shown by his careful method of investigation, that the exudation is often interstitial, or that it may occupy both localities.

The mode of production of the non-inflammatory form of œdema has been much discussed, and, in elaborating his doctrine of œdema, Cohnheim caused the subject to be carefully investigated by WELCH, now of Johns Hopkins University, whose theory has been several years before the profession, and is adopted in the *Allgemeine Pathologie* of Cohnheim. According to it, the chief factor in the production of œdema of the lungs is a weakened or paralyzed left ventricle, with persistence of the action of the right chamber, and a consequent enormous increase of the blood pressure in the pulmonary circulation. In rabbits, intense œdema of the lungs was induced by ligation of the aorta, or of the pulmonary veins, or by compression of the left auricle, or of the left ventricle, until it was paralyzed—conditions in which the blood pressure was greatly increased in the pulmonary circulation, and in which the right ventricle continued to beat for some time. Sudden œdema in heart and renal disease can, therefore, be accounted for by a weakened action of the left ventricle, with persistent, vigorous action of the right, or by sudden paralysis

of the left ventricle. As has been known since the time of Harvey, the right side of the heart continues to beat later than the left, and this fact seemed to fit well with the theory, and explain the frequency of the terminal œdema in so many cases, particularly when the death agony is prolonged.

Many objections have been urged against this view, which scarcely meets all the facts, and is particularly weak in the absence of clinical evidence of failure of the left ventricle in these cases. A few striking examples have, however, been reported in confirmation. Thus, Falk, of Berlin, reports a case of direct bullet wound of the left ventricle, with death in fifteen minutes, in which there was intense œdema of the lungs, while in a case of wound of the right ventricle, with death in about fifteen minutes, there was not a trace of infiltration of the lungs.

SAHLI, in the *Archiv f. Exp. Path. u. Phar.*, xix. 6., has confirmed the results obtained by Welch in rabbits, but he has found great difficulty in producing the œdema in dogs by ligature of the aorta or compression of the left auricle, nor was he able to produce isolated paralysis of the left ventricle. In a study of cases post-mortem, he found in the majority, that the œdema was local, and associated with inflammations, and that in the large group of cases in which the condition occurred during the death agony, changes in the vessels consequent upon the hypostatic congestion would account for it. Instances of general pulmonary œdema were rare, and in such the lungs were pale and bloodless, showing no signs of congestion. They occur in renal and cachectic patients in whom there is no evidence of failure of the left ventricle with pulmonary hyperæmia. Possibly in a few cases of heart disease—combined mitral and aortic—Welch's theory may suffice to explain the œdema, but in the majority of instances Sahli regards it as superfluous or insufficient. In twenty-four cases of aortic and of mitral disease he failed to find one with extensive pulmonary œdema. When the condition was induced in animals he found artificial respiration and copious venesection prolong life. The latter procedure has been successfully employed by S. Mackenzie, and others, in the extreme pulmonary congestion of cardiac insufficiency and of emphysema.

### ARSENICAL POISONING FROM RED, BROWN, AND BLUE WALL PAPERS.

As a result of the repeated warnings urged by sanitarians against the employment of green wall papers in inhabited rooms, and especially in sleeping apartments, on account of arsenical ingredients in their coloring matters, these treacherous decorations have, in great measure, been banished from the market. A new sanitary crusade is now, however, needful against the use of certain other aniline colors, because, as recently demonstrated more for-

cibly than ever, by the opportune investigations of PROF. E. S. WOOD, of Boston, papers printed with red, brown, and blue arsenical pigments, are more frequently met with at present than the greens, which were formerly alone deemed deleterious to health.

In the last volume of the report emanating from the Massachusetts State Board of Health, Lunacy, and Charity, Dr. Wood gives in illustration of his excellent article on arsenic as a domestic poison, six pages, upon which are pasted small slips of thirty-four wall papers; one of calico, and one of turkey-red cotton fabric, all, with a single exception, more or less charged with arsenic. Some of these samples are pink and gold, others dark brown on a yellow or light brown ground, several are red, and a few only are green enough to excite apprehension among the verdant. The amount of poisonous metal per square yard varies from half a grain up to fifty-five grains, and the price from twenty cents to three dollars a roll. The single specimen of this series which analysis proved to be free from arsenic, is light green in color, and is quoted at the lowest price above mentioned, so that it is evident that inexpensive, non-arsenical, green pigments, suitable for use in the printing of paper hangings, can be supplied. A very significant fact is, that samples of the more highly charged arsenical papers, some of which contained as much as two hundred and eighty-eight grains in each square yard, are omitted, because they produced extremely disagreeable effects in the workmen who merely handled those furnished in a previous volume of these reports, during the process of binding.

Of other papers, those called by the trade "glazed and plated," and used largely by children in kindergarten schools, are probably the most dangerous. Certain of these, chiefly red and green, contain a large quantity of arsenic, which notwithstanding a reasonable amount of care on the part of teachers, is liable to find its way into the stomachs of young children, who handle the slips of paper, and not infrequently place them between their lips. It is quite probable, as suggested by Dr. Wood, that many cases of irritable stomach and of indigestion, ascribed to taking cold, or to some indiscretion in diet, are really due to mild arsenical poisoning produced in this way. The red, brown, and blue papers of various shades, used, for example, as wrappers for confectionery, making tickets, and covering boxes, are often highly arsenical. One sample mentioned as being of the kind used in the manufacture of band-boxes, was so impregnated with the noxious metal, that a small box of this kind with three square feet of surface, would have in its composition about one hundred grains of arsenic. Painted balls, India-rubber dolls, and especially toy candles, were also found to be sources of danger; one small green candle contained nearly a grain of arsenic, which

must of course be volatilized, and distributed through the air of any room in which it is burned. Serious examples of arsenical poisoning have been traced to the use of a certain kind of glaze upon linen or paper collars and cuffs, the surprising amount of ten grains of arsenic being obtained from a single one of these articles of dress.

Prof. Wood has collected the records of over forty cases in which poisoning is reported to have occurred, chiefly from exposure to the dust of arsenical wall papers. From an analysis of these, he concludes that the local symptoms are those of irritation of the eyes, nose and throat, or of headache, nausea, and diarrhoea. The former group of disturbances is apt to be attributed to a common cold, whilst the latter derangements are liable to be mistaken for a fit of indigestion, or a bilious attack. The general symptoms due to the action of the poison, after it has been absorbed by some of the mucous membranes, comprise neuralgia, dizziness, severe headache, nervous prostration, trembling of the limbs, and attacks of syncope.

Curiously enough, an avenue for the disposal of red, brown, and blue wall papers, with which manufacturers appear to have overstocked the shops, seems to be opened by the suggestion that in miasmatic regions, the inhabitants should systematically respire the air of rooms decorated with these poisonous paper hangings, during the season in which malarious disorders are prevalent. According to Tomasi-Crudeli, the amount of arsenious acid necessary for fortifying the adult human organism against ague, is from one-thirtieth to two-fifteenths of a grain daily; and direct observation upon individuals residing in marshy localities would soon determine how many hours per day patients should inhale air charged with the arsenical dust from the walls of particular rooms, in order to introduce a sufficient amount of the counterpoison into their systems.

#### THE CAUSES OF ANEURISM.

FROM the earliest times in which aneurisms were recognized, attempts have been made to account for their occurrence. But most of these have met with little success, and the original cause of aneurism is almost as much in the dark now as it was in the days of Galen. But two recent contributions to the study of this subject throw a certain amount of light upon it. One of these is a paper in Langenbeck's *Archiv für klinische Chirurgie*, xxxii. Bd., 3 Heft, by Dr. CLEMENS RICHTER, who, writing from San Francisco, has made an elaborate analysis of the conditions in which aneurism attains so striking a prevalence, as it does in, that city. In doing this, he has examined, among other things, the nativity of the citizens of San Francisco, and compared the ratio of the cases of aneurism there with that which is found

in the countries and parts of countries from which they come. He has also endeavored to show that the difference between the two figures, which is very striking, indicates that conditions peculiar to life in that city are to be credited with a special influence in the production of disorders of the circulatory apparatus and of aneurism. San Francisco has the largest death rate from aneurism of any part of the world, and the first point which Dr. Richter makes, is that the excess is proportioned to the excess of foreign-born population. But that these foreigners do not bring any special predisposition with them appears from the statistics of the places from which they come, where the proportion of aneurism is much less than in San Francisco. The reason for this he seeks for in the extraordinary physical strain to which emigrants in California are subjected, and the habit of drinking stronger spirits than they were accustomed to at home. So far as California is concerned, this seems to confirm the old belief that muscular excesses, so to speak, when committed by those who have, from syphilis, alcoholism, or endarteritis, a predisposition to giving way of the walls of the bloodvessels, contribute largely to the production of aneurism.

But the difficulty of arriving at a satisfactory generalization from the evidence in regard to this matter is apparent to anyone who examines the evidence carefully. It is as easy to charge syphilis and alcoholism now, as it was formerly to charge gout, with being a predisposing cause of aneurism. But when we come nearer and inquire what proof there is that this is so, we find it hard to establish the fact. DR. HAMILTON, in a paper in *The American Journal of the Medical Sciences* for October 1885, has reproduced the singular, but consistent opinion and practice of Baron Larrey, who believed that aneurism might be due to a syphilitic ulceration of the inner coat of an artery, and gave mercury to effect a cure. But there is no author who has made anything like a demonstration that syphilis can be considered as a frequent cause of aneurism, and observations made in hospitals containing large numbers of syphilitics point quite the other way. The same is true in regard to alcoholism. Dr. Hamilton has collected the testimony of a number of medical men in charge of homes and asylums for the inebriate, all of whom assert that aneurism has exceedingly rarely come under their observation. One letter to Dr. Hamilton states that the writer had treated over ten thousand inebriates, and had never seen anything like an aneurism. Such testimony leaves little ground for attributing to the use of alcohol a predisposition to aneurism.

Then, as to the influence of hard labor, it would seem as if a wide application might be given to the

assertion of Prof. Agnew, in his treatise on surgery, that there is nothing in honest labor to produce arterial degeneration. One of the tables of Dr. Hamilton indicates this very strikingly; for it shows that the ratio of aneurisms in over four thousand merchants and a similar number of boatmen examined was equal, viz., a little over four-tenths per thousand; that it was even less in eleven thousand carpenters, and only about one-third as great in six thousand blacksmiths; while in ten thousand unclassified mechanics it was only one-fifth as great, and in fifty-nine thousand laborers it was only one-eighth as great!

This overwhelming evidence that "honest labor" does not predispose to the formation of aneurism must not, however, be supposed to militate against the correctness of the conclusions of Dr. Richter, who seems to have hit upon a plausible reason for the prevalence of aneurism in San Francisco, where it is not honest labor which does the mischief, but excessive labor, labor greater than that to which the subjects had been used, combined with greater excitements and addiction to forms of alcohol more fiery than those to which they had been accustomed.

The explanation which attributes to peculiarities of climate a special influence in the production of aneurism seems to us to confuse causation and coincidence. It is now stated that humid countries with great daily changes of temperature, furnish a comparatively large number of cases of aneurism, as formerly this used to be said of cold countries. Neither of these assertions is borne out by any collection of statistics with which we are familiar; and certainly the statistics of Dr. Hamilton, cited to establish the first of them, may be used quite as well for a diametrically opposite purpose.

The predisposing cause of aneurism remains, therefore, still wrapped in obscurity, all the theories which have thus far been advanced to explain it being little more than guesses. But it is to be hoped that further investigations will throw some light upon the subject. Such investigations, we are inclined to believe, must take into consideration more particularly than has yet been done, the seat of individual aneurisms in connection with the general condition, the occupation, and the exposures of each patient. It is an interesting, and it may prove a suggestive fact, that aneurisms are almost limited to large bloodvessels, and that they have their seat at points at or near which considerable branches come off. A careful study, in each patient, of such anatomical peculiarities of the bloodvessels, together with the peculiarities of condition, occupation, and exposure of every sort, will, we believe, show more in a few cases than an analysis of a very much larger number of cases, which classes all sorts of aneurisms together.

**THE RELATION BETWEEN THE DEVELOPMENT OF THE ROUND LIGAMENT AND THE CONTRACTIONS OF THE UTERUS.**

FREUND'S *Gynäkologische Klinik*, published recently at Strassburg, contains a brief contribution from DR. HOMBURGER upon the relation between the strength, or development of the round ligament and the action of the uterine musculature.

Dr. Homburger refers to the three factors which enter into the question as to the favorable progress of a labor, viz., the bony passage, the soft parts of the pelvis, and the size of the child. He observes that the means by which we ascertain the size of the child, and the condition of the uterine musculature are as yet very uncertain. So far as examination of the latter is concerned, the result obtained is incomplete, since only one side of the uterus can be palpated.

Professor Freund first suggested a possible relation between the thickness of the round ligament and that of the uterine muscular wall. The office of the round ligaments has been recognized as contributing, in the latter part of pregnancy, to the descent of the foetal head into the pelvic cavity, and, in labor, as drawing the fundus of the uterus forward, and assisting the pressure of the ovum upon the os uteri during labor pains. But hitherto, no one has sought from the development of these ligaments to make a prognosis as to the progress of the labor.

Dr. Homburger states that in almost every pregnant or parturient woman the round ligaments can be felt through the abdominal covering, and especially the left ligament, it generally having a greater circumference, and being more distinct than the right. In examining 270 women, he failed to feel them in only two. He further states that there is a relation, on the one side, between the development of the round ligaments and of the uterine wall, and, on the other, the forces of the "contractions." One can, if there be a well-developed ligament and uterine musculature, reckon upon vigorous uterine contractions. Very weak contractions never come with a strong ligament. His conclusions were drawn from numerous cases. In eighty-one where the ligament was found quite thick, there were only two which showed defect in the labor activity. In twenty-six cases where the ligament was moderately thick, there were only seven in which the contractions of the uterus were fully normal.

In deciding as to the normal action of the uterus, one finding the normal ligaments unequally developed, this being usually the case, selects that which is the thicker, in order to predict from it the character of the uterine contractions. Further, in this decision a very positive preference is to be given to the examination of this ligament over palpation of the uterus.

Why the left round ligament should be in almost all cases larger than the right, is not easily explained. Certainly the former is more readily examined than is the latter, for the pregnant uterus usually undergoes a partial rotation by which its left side is thrown more toward the anterior abdominal wall, while its right recedes posteriorly. This rotation is probably derived from an embryologic condition; for, when Müller's ducts are brought in apposition for the development therefrom of the uterus, the left duct is somewhat further in front than the right, because thrust forward by the terminal portion of the intestine at the left, and fusion takes place in an oblique position. This normal rotation of the uterus in pregnancy may cause increased strain upon the left ligament, and hence its development may be greater than that of the right ligament.

**REVIEWS.**

**MICRO-CHEMISTRY OF POISONS, INCLUDING THEIR PHYSIOLOGICAL, PATHOLOGICAL, AND LEGAL RELATIONS; WITH AN APPENDIX ON THE DETECTION AND MICROSCOPIC DISCRIMINATION OF BLOOD.** ADAPTED TO THE USE OF THE MEDICAL JURIST, PHYSICIAN, AND GENERAL CHEMIST. By THEODORE G. WORMLEY, M.D., Ph.D., LL.D., Prof. of Chemistry and Toxicology in the University of Pennsylvania. With ninety-six illustrations upon steel. Second edition. 8vo, pp. 784. Philadelphia: J. B. Lippincott Company, 1885.

THE dominant and lasting impression produced by an examination of this work, is a conviction of its absolute trustworthiness. The work bears direct internal evidence of the careful verification of literally all of the principal tests and methods given. An illustration, and one by no means unimportant, of the reliability of the book is seen in the fact that the numerous citations of medico-legal cases are drawn exclusively from the official records.

To those already acquainted with either edition, any mention of the exquisite delicacy and accuracy of the plates which illustrate the volumes is needless. They bear the same relation to the classical drawings of Funke as did these latter to the designs of earlier observers.

The work has been thoroughly revised and much enlarged in matter, especially by the addition of illustrative cases, largely American, and by new tests and methods for recovery of poisons from organic mixtures. The more important additions to the work in its present form are seen in the full appendix on the chemical recognition and microscopical discrimination of blood, and in the chapters on the Ptomaines and on Gelsemin. Three of the sixteen steel plates, together with a colored plate of the blood-spectra (chiefly remarkable for the accuracy of its measurements) are also new. Throughout the book the new chemical nomenclature has been substituted for the old.

## SOCIETY PROCEEDINGS.

### NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, October 19, 1885.*

THE PRESIDENT, CHARLES A. LEALE, M.D.,  
IN THE CHAIR.

DR. FREDERIC S. DENNIS read a paper on  
FRACTURE OF THE PATELLA, WITH ILLUSTRATIVE  
CASES.

It was devoted to the treatment of this accident by wiring together the fragments, the procedure recently revived by Mr. Lister, and Dr. Dennis said his aim was to present all the arguments both for and against the method. It was first performed by the late Dr. John Rhea Barton, of Philadelphia, in 1834, and afterwards by McClellan, Logan, Gunn, and others; American surgeons thus being the pioneers by many years in this, as in a number of other important operations.

There are at present two classes of surgeons who represent surgical opinion on this subject. The first is composed of those who regard it as a perfectly justifiable procedure, and, when performed with proper antiseptic precautions, unattended with danger. It is to be noted, however, that previous to the year of 1883, two cases out of forty-nine had terminated fatally, while in six suppuration and ankylosis had followed the operation. Since 1883, however, much better results had been noted. He was unable to state the exact number of operations which had been done, but a fair estimate would place them at more than fifty, and in this group of cases no patient had died. Out of the fifty, suppuration had been reported in three; but one of these was a case of compound fracture of the patella. Now and then it is to be expected that there will be a failure.

The second class of surgeons is composed of those who are of the opinion that this operation is wholly unjustifiable on account of the great risk incurred in opening the knee joint, and who claim equally good results for the older methods.

Dr. Dennis stated that personally he had treated some sixty cases of fracture of the patella altogether, and that previous to adopting the operation of wiring the fragments together, he had obtained the best results from the method of the late Dr. James R. Little, with plaster of Paris. He had seen only a few cases, however, where the union was osseous and the fracture of the joint was perfectly restored. Having remarked that he never obtained as good results as with the method of wiring the fragments, he exhibited a specimen of bony union after fractured patella, which he said he believed was the only one of its kind. It came from a case which had been treated by one of the older methods, and in this connection he referred to a patient now under treatment at St. Vincent's Hospital, in whose case, although he was 88 years of age, bony union had been secured. He then stated his firm conviction that modern antiseptic surgery could show as its results both osseous union and perfect joints, which every surgeon knows the difficulty of obtaining by any of the older methods.

The metallic suture in fracture of the patella, is, with certain restrictions, an ideal operation. Lister was

fully aware of the responsibility which he took in recommending it, and in the memorable debate in which he defended its justifiability he claimed as its special advantages, first, that it relieved the tension of the quadriceps femoris, and, second, that it gave exit to the blood in the joint. To this statement it was replied, that the former object could be secured by means of tenotomy, and the latter by aspiration. Lister then said he would advocate it because he had faith in his antiseptics, even if the relief of muscular spasm and the removal of blood from the joint could be accomplished by simpler means. These reasons, Dr. Dennis thought, did not wholly justify us in adopting this procedure. But there are stronger grounds still; for while the operation does secure the points referred to, in addition it results in free and unrestrained movement of the joint.

When the older methods are employed, bony union is very rare; but with the new operation it is the rule. In this connection he related the case of a patient who, while suffering from delirium tremens, jumped from an upper window in a tenement-house and fractured the patella. The fragments were wired together, and when death resulted six days afterward, bony union was found to have already occurred. With the older methods the layer of tissue in front of the patella is exceedingly apt to get between the fragments and prevent osseous union. There are three strong arguments in favor of the operation of wiring the patella: *First.* The absence of danger to hip and limb. *Second.* The superior results as regards the functions of the limb and the joint. *Third.* The greater rapidity of repair. When we come to substantiate these claims, it is found in regard to the first point, that in the second series of fifty cases since 1883, there was not a single case of blood-poisoning among them. The better results noted in the second series, he attributed to the fact that previous to 1883 the operation was in its infancy, and the correct methods of procedure were not sufficiently understood. It is safe to predict, he thought, that in the future it will be absolutely free from danger to hip and limb. One great point has been gained in the very much shorter space of time than formerly which is now required for the operation, which used to take two hours, but now requires not more than thirty minutes. He is now accustomed to employing an Archimedean drill for boring the holes in the bone, and this he believes to be a great saving of time. In but a single case had amputation been necessary and this was in a case, not yet published, in which erysipelas had been contracted from another patient. Perhaps the most brilliant test of the operation is to be found in compound fracture of the patella, in which no one pretended to doubt its superiority. To illustrate this he related a case which occurred ten years ago, and which, although the patient recovered with ankylosis of the joint, was then regarded as a triumph of surgery. Quite recently he had himself had a case of compound fracture under treatment. The patient fell from a scaffold, fracturing the patella transversely, and the joint was found to be wide open and filled with blood. Yet in a few weeks the man was walking about again with perfect ease, and at present the limb is just as good as it ever was, since he is able to dance, to climb a ladder, and to walk ten or fifteen miles.

Dr. Dennis said that he had had one death following wiring of the patella, the case already referred to; but

the operation had nothing whatever to do with the fatal result. Within twenty-four hours he had two cases of fractured patella in different hospitals. One of them died in six days, and at the autopsy the joint was found to be perfectly aseptic; death having been due to delirium tremens and Bright's disease. The specimen from the case which he now exhibited was entirely unique, he said, as it showed firm bony union in only six days after the operation. No callus was found, and the union was analogous to primary union in the soft tissues.

*Second*, the superior results as regards the functions of the limb and the joint. Under the use of the older methods a separation of the fragments of half an inch was regarded as a very good result, and Malgaigne stated that he had never seen a perfect result after fracture of the patella. Dr. Dennis having enumerated a long list of evils which are likely to follow this accident when treated by the former methods, claimed, in contrast, that with wiring the fragments together a perfect joint, with perfect restoration of usefulness, can be obtained.

*Third*, the greater rapidity of repair. In a case of his own the patient was walking about in eight weeks, and in one of Dr. Phillips's, in three weeks and three days; while a patient of Dr. Hinton's walked nearly a mile at the expiration of six weeks. He believed that, as a rule, it will be found that in two weeks union is sufficiently firm to enable the patient to walk. This gain of time is certainly a very important matter, not only to the day-laborer, but to the professional and business man also. Formerly, however, the patient was laid up for at least three months, and the limb was not strong for two years.

It is true that the Academy of Medicine in Ireland and Société de Chirurgie have pronounced against the new operation; but he has no doubt whatever that the tide of professional opinion will soon turn in its favor. The case is altogether analogous to that of abdominal section in surgery, in regard to which such a complete revolution of sentiment has occurred. It has been stated that the knee-joint is liable to the formation of osteophytes after this operation; but this is merely a fanciful objection. Another objection put forth is that rarefying osteitis is likely to occur, but he has never seen such result.

The conclusion of the paper was devoted to a description of the technique of the operation. In the first place, he said that wiring the fragments ought not to be undertaken immediately after the accident in simple cases, as it is liable to set up inflammatory action under these circumstances. It is better, therefore, to wait a few days. In compound fractures, however, the operation is to be performed at once. The strictest antiseptic precautions are invariably to be observed, and among them are the free use of iodoform and ether, the application of bichloride solution (1 to 2000) to the parts above and below, and the continuous irrigation of the wound with the same solution from the beginning to the end of the operation. Personally, he prefers the transverse to the longitudinal incision, which is the one more commonly adopted. The joint having been laid open, all blood-clots are to be removed, and the anterior fibrous capsule elevated from between the two fragments. The holes in the bone for

the sutures, as had been mentioned, are bored with an Archimedean drill, the passage of the wires being assisted by a groove; no harm comes from leaving the wires in the wound. After the latter is closed, a plaster-of-Paris splint is to be applied, and the patient kept in bed.

Dr. Dennis gave his conclusions somewhat as follows:

(1) In compound fractures of the patella there is not the slightest doubt of the propriety of the operation. The cases of Dr. Fowler, himself, and others demonstrated its practical usefulness.

(2) In recent and old fractures, under ordinary circumstances and with the patient's consent, it is wholly justifiable.

(3) In debilitated patients and those suffering from organic diseases, the operation should not be performed.

(4) It is not an operation which can be indiscriminately performed. It should never be undertaken by the inexperienced or by those who have not the most complete faith in the efficacy of antiseptic surgery.

(5) Success depends on the most thorough carrying out of the minutest details of the antiseptic procedure.

(6) While the number of cases is as yet limited, the more and more extended adoption of the operation by the surgeons of America will soon cause it to be universally regarded as a most marked advance in treatment.

Dr. Dennis then proceeded to exhibit a number of very interesting cases. The first was his own case of compound fracture, where the patient fell from a scaffold. At the end of two months he said he had walked well, and at present it is evident that he has the most complete use of the joint and limb.

The second case was that of Dr. Fowler, of Brooklyn, which was the first case of compound fracture of the patella treated by the new method in this country, and which, he said, undoubtedly marked an era in the surgery of America. Dr. Dennis's case, just referred to, was the second. Dr. Fowler's patient was a female, and it was seen that she had a most useful limb; being able to bend it to more than a right angle at the knee. In this case Dr. Fowler had allowed the drainage-tube to remain in position for two weeks, while in his own it had been withdrawn at the end of three days.

The third case was that of a man who had fractured his patella less than three weeks ago, and yet the wound was entirely healed, and he was able to walk about on crutches. Three other recent cases were also exhibited, and all are doing well. Dr. Dennis expressed his regret at not having been able to present, in connection with this group of cases, that of Dr. Phelps, in which both patellae were fractured. This patient, he said, is now walking about the streets as well as ever.

DR. FOWLER, of Brooklyn, being called upon by the Chair, said that he was always ready to say something in favor of conservative surgery, and he believed that the operation to which Professor Dennis had invited attention this evening is conservative surgery pure and simple. His own case of compound fracture, which had been referred to and exhibited, was a peculiar one from the fact that the upper fragment became necrosed, and had finally to be removed. After the operation of

wiring the fragments together, he had found it advisable to have two drainage-tubes in position, and his object in allowing them to remain for two weeks was that he believed it to be less dangerous to do so than to be obliged to resort to frequent dressings. He thought that in antiseptic surgery as little change of dressings as possible is highly desirable, and in this instance the first dressing was not changed at all until the expiration of fourteen days, when the drainage-tubes were removed. He had also employed the same method in cases of exsection of the knee and other large joints which were cured in twenty days, with but a single change of dressings at the end of the tenth day. As to the Archimedean drill employed by Dr. Dennis, he was greatly impressed with its simplicity and usefulness; but even if no such contrivance be made use of for boring the holes, he could not see how such a long time could be required for this, as Dr. Dennis had intimated. In his own case he had used an ordinary carpenter's brad-awl, and the operation had not been a prolonged one. For introducing the wire through the holes he had employed a canula.

In this operation it is of great importance to remove the fibres of the aponeurotic surfaces from between the fragments, as, if left there, they are extremely likely to prevent bony union. In cases of secondary suture the method of McEwen, to which he believed Dr. Dennis had not referred, and which consists of making saw-toothed incisions of the quadriceps femoris, is of great service in bringing the fragments together. It is the ordinary practice to hammer the twisted ends of the sutures down into the periosteum, but instead of doing this he had suggested turning them in between the fragments, as he believed this will give rise to less irritation. In some cases he had also made use of a rubber bridge beneath which the wire sutures could be withdrawn entirely after they had served their purpose, if required, and he considered this to be a desirable point.

In conclusion, he said he could only express his sincere appreciation of the efforts being made in connection with this operation, to prove beyond question the superiority of the antiseptic system of surgery, which he considers the most inestimable boon in this department of medicine since the introduction of anæsthesia by means of chloroform and ether.

DR. BURGE, of Brooklyn, remarked that he had had no experience with the heroic measures which had been the subject of discussion. He had hitherto flattered himself that he had been able to bring the simpler and older methods of treating fractures of the patella to the greatest perfection; but after listening to what had now been said, he felt like a junior student, and he did not hesitate to assert that he believed he had derived more benefit from what he had heard here than he would have done by a three months' trip to Europe.

DR. F. FORNÉ, staff-surgeon of the French Navy, now stationed on a man-of-war in New York Harbor, expressed through Dr. J. W. S. Gouley his pleasure at being present this evening, and his conviction, from what he had seen and heard, of the propriety of the operation of wiring the fragments together in cases of simple fracture of the patella.

DR. H. M. BIGGS, of the Carnegie Laboratory, then gave some

#### DEMONSTRATIONS OF CULTURES OF THE MICRO-ORGANISMS OF OSTEOMYELITIS.

In his remarks he said that the infectious nature of osteomyelitis had for years been recognized by surgeons, but it was only recently that the constant presence of distinctive microorganisms in connection with this affection had been demonstrated by Rosenbach, who had found them in fourteen cases. Brehn, of Berlin, had found them in five cases, and Krauss and others had likewise confirmed his observations. In form they are small and round, and sometimes oval. They may be found singly or linked in two (diplococci), but most usually, and especially when cultivated, they are in considerable masses grouped together. There are two forms of this microorganism, which now are only distinguishable from the fact that one of them forms pigment.

The pathogenic form of these microorganisms had been tried on dogs, rats, mice, and guinea-pigs, the infectious material being injected subcutaneously. In the majority of instances this produced an acute abscess, which rapidly healed after being opened. In a few, however, pyæmia resulted, and in certain cases the larger joints became affected, micrococci being found in them. But if, previous to the injections, some of the bones of the animals are fractured, the pathological effects observed closely resemble those met with in osteomyelitis in man, and the conclusion can scarcely be avoided that the two affections are identical. The same microorganisms have been observed in connection with acute abscess, furuncle, carbuncle, etc., so that it is reasonable to infer that such disorders are the same as osteomyelitis, which affects the medulla of the bones, except as regards the modification dependent on differences in location. Dr. Biggs also referred to two other forms of micrococci which have been found in connection with suppurative processes, and which are very similar to those mentioned. He then spoke of a remarkable case of osteomyelitis which had come under his observation in an infant only six weeks old, occurring as a primary affection. It was especially interesting, he said, on account of the large number of bones involved. The shaft of the humerus on both sides was infiltrated with pus, and the upper epiphysis separated from the diaphysis, and the femur, the tibia, and the bones of the carpus were affected in the same way on both sides. There was no evidence of fetal marrow with its characteristic red color, everywhere there was found a semi-purulent condition in the medullary cavities, the color of the substance in which was yellowish.

DR. FORNÉ presented a new instrument,

#### A TRUE SERRE-NEUD FOR TIGHTENING A KNOT CONTINUOUSLY,

the description of which, translated from the French, was read by the Secretary, Dr. P. Brynberg Porter. It can be used upon any pediculated tumor or portion of tissue that can be removed with a loop.

DR. GOULEY remarked that this is undoubtedly the best instrument of its kind ever invented. It is very simple, and yet very efficient in constantly tightening a knot, and he thought it will be of the greatest possible service in ovariotomy.

THE PRESIDENT made some remarks, with the exhibi-

tion of a carefully prepared microscopical specimen, in regard to

**NUMMULITES, FROM THE FOUNDATION STONE OF CLEOPATRA'S NEEDLE AT CENTRAL PARK, REMOVED FROM EGYPT TO NEW YORK IN 1880.**

When the base of the obelisk was being placed in position, he said, a broken off-piece was given to Dr. P. C. Cole, who skilfully prepared this beautiful translucent specimen, one inch square, and presented it to me. I can easily remember the time when the huge piece of rock now supporting the obelisk was transported through the city, passing by my solidly built residence on Fifth Avenue, which it shook from foundation to roof, as the wheels of the heavy truck rolled on the Belgian pavement. This stone is called nummulitic limestone. It is of the middle Eocene period, and consists of limestone composed of nummulites, which are held together by a matrix formed of the comminuted particles of their shells, and of smaller foraminifera. The pyramids are built of this rock, which was taken from the Mokkadan Mountains in Egypt.

This nummulitic limestone, Dr. Carpenter informs us, is so vast in extent that it is often 1800 miles in breadth and sometimes several thousand feet in thickness, and it may be traced from the Atlantic shores of Southern Europe and Northern Africa, through Western Asia, to Northern India and China, and likewise over large areas in North America. It plays, as Sir Charles Lyell states, a far more conspicuous part than any other tertiary group in the solid framework of the earth's crust. Yet, when this extensive geological structure is examined microscopically, it is found to consist of minute shells, impossible for the human hand to trace, showing the fossil remains of one of the early evidences of animal life, a minute protozoan, characterized by having a calcareous shell perforated by pores or foramina. The older we live, and the more we investigate, the more do we behold the numerous mysteries yet to be solved. Our profession demands constant thought and ever-active brains. Life truly is short, but art is endless.

**COLLEGE OF PHYSICIANS OF PHILADELPHIA.**

*Stated Meeting, October 7, 1885.*

**THE PRESIDENT, J. M. DA COSTA, M.D., IN THE CHAIR.**

DR. DA COSTA offered some

**REMARKS ON THE TREATMENT OF ROSE COLD AND HAY FEVER BY COCAINE.**

(See page 477.)

DR. HARRISON ALLEN remarked that he was glad to hear Dr. DaCosta state that the effect of cocaine is inconstant within a narrow range in different individuals. He had observed the same fact. In endeavoring to account for it, he had concluded that the difference lies in peculiarity of the erectile tissue. Those persons in whom the tissue is sparsely developed are, he thinks, less susceptible to impression by the remedy than are those in whom it is well developed. He recalled one case in which a four (as well as an eight) per cent. solution was used persistently without benefit. If, then, one has under observation nasal chambers with mucous

membrane exhibiting but little erectile property (changing very little under any of the conditions, such as galvanism, which ordinarily constrict the capillary network), the remedy will give but little relief. He had had three such cases under care during the past summer. The shrinking up of the erectile masses places the nose in what may be called a normal condition, the air passing through at a normal rate and the irritated surfaces not touching each other. One of the cases in which relief was not secured, was that of a lady suffering from the annoyance due to complete occlusion. After applying the cocaine for half an hour there seemed to be a little relief, but it lasted only a short time. Notwithstanding these failures he had no doubt that further experience will show the truth of the author's statement, that we have in cocaine a remedy which will, in the majority of cases, give relief.

DR. H. C. WOOD said that, in this connection, the observations of Dr. Lyons, of Detroit, may be of interest. He has shown that there are probably two or three alkaloids in cocoa leaf, and that the commercial alkaloid, cocaine, not rarely is composed of more than the one alkaloid, ecgonine, and perhaps a third alkaloid is present. The unexpected results sometimes obtained from the therapeutic use of cocaine may possibly be due to the presence of one of these other alkaloids.

DR. RUSCHENBERGER asked for information as to whether or not caffeine is capable of taking the place of cocaine.

DR. H. C. WOOD stated that he had made some experiments with caffeine on the eyes of patients, and found it to be without effect.

DR. ORVILLE HORWITZ then communicated, through Dr. Da Costa, his

**OBSERVATIONS ON SUNSTROKE AND HEAT-EXHAUSTION.**

(See page 485.)

DR. H. C. WOOD said that the use of musk, as detailed in the paper just read, he believed to be new. Antipyrin has, however, been used in one of the New York hospitals, and a paper written thereon by the resident physician.

There is one point which is worthy of consideration by hospital authorities. He has noticed himself, in experiments on animals, that time is of the utmost importance in the treatment of sunstroke, and our clinical experience accords with this. If the moment the animal became unconscious, he reduced the temperature by cold, the animal invariably recovered; if, however, it was left for ten or twenty minutes, reduction of the temperature caused benefit, and usually return of consciousness, but there were almost always marked signs of an impaired nervous system, and in a large proportion of cases death from paralysis. In the New York Hospital, antipyrin was given to the ambulance surgeon, and thus the remedy could be administered at once. He thought that in very warm weather the hospital ambulance should be provided, not only with antipyrin, but also with ice, and no time would be lost, the remedies being applied as the patient was being brought to the hospital. The patient could be half undressed and rubbed with ice, and antipyrin could be used hypodermically.

Very few writers report the time which has elapsed before treatment after the sunstroke; and without such

report statistics are of little value, because one of the most important elements of the case is omitted.

DR. J. M. DA COSTA said that it is but fair to Dr. Horwitz to state that this use of antipyrin is, so far as he knew, original. Looking at these cases, it will be found that they were treated in July, while the paper alluded to, which has escaped his notice, appeared in August; it is evident, therefore, that he had thought of antipyrin himself.

In regard to musk, he has been utterly unable to find any reference to its use in the convulsions of sunstroke, and he was glad to hear so distinguished an authority as Dr. Wood state that it has never been used before for the purpose. The use of opium, or rather of morphia, hypodermatically, for the arrest of the convulsions of sunstroke, also originated, so far as he knew, in the Pennsylvania Hospital, and was published some years ago.

#### NEW YORK SURGICAL SOCIETY.

*Stated Meeting, October 13, 1885.*

THE PRESIDENT, R. F. WEIR, M.D., IN THE CHAIR.

#### HÆMATOMA OF THE THIGH.

DR. H. B. SANDS presented a specimen obtained from the body of a man who died in June last in St. Luke's Hospital. The interest of the case lay in discovering, if possible, the seat of the lesion for which an operation was performed in the month of June, 1883. The case had been fully reported in *The Archives of Medicine* for December, 1884.

A man, fifty-one years of age, suddenly developed in the left thigh a swelling of very large size. At first this was thought to be an aneurism, but it lacked many of the features of an aneurism, and Dr. Sands diagnosed a hematoma communicating with a vein. At the time of the operation seven pints of blood, by measurement, were evacuated from the tumor, and it was estimated that a pint of blood was lost; in other words, the tumor contained a gallon of blood. He found a large opening leading from the sac into what seemed to be one of the profunda veins, and tied the vessel in question above and below the bleeding point. The man recovered and regained the use of his limb. Two years later he died, in St. Luke's Hospital, of visceral disease, implicating chiefly the liver and kidney. At the autopsy, a segment of the affected limb was removed and submitted for examination to Dr. Hall, who has made the following report:

The specimen consists of about the middle third of the left femur, with abnormally developed linea aspera, forming a sharp ridge where perforating arteries pass through. Attached to the femur are a part of the vastus internus, abductors longus, brevis, and magnus. Left in position are part of the rectus femoris and sartorius; superficial and deep femoral arteries and veins, and anterior crural nerve, and, posteriorly, the great sciatic nerve. Anteriorly the skin and superficial fascia have been stripped off in great part; at the inner side of the anterior surface of the specimen above the vastus internus a portion of integument has been left, containing a longitudinal cicatrix, about three inches in length. The long saphenous vein has been dissected out and cut off above, but remains attached below. It contains a thrombus throughout its course. Fascia lata

has been divided and muscles separated so as to expose the superficial femoral artery and vein throughout, and they are pervious, apparently rather larger than usual, but not atheromatous.

The profunda femoris is large, and pervious down to the last perforating artery. Here the last perforating artery penetrates the adductor magnus and is continued pervious on the posterior surface of the specimen. The artery itself terminates close to the ridge of bone from the linea aspera in a mass of dense cicatricial tissue. An artery, apparently the continuation of this, emerges from the posterior surface of the specimen from the cicatricial tissue, contains a thrombus, and is lost on the posterior surface of the adductor magnus.

A single large vein accompanies the profunda artery, passes beneath the last perforating artery, and terminates abruptly in the cicatricial tissue. The cicatricial mass is about two inches in length, involves the attachment of the adductor magnus muscle to the bone, and is connected with the cicatrix mentioned above. A large vein, not accompanying any artery, passes from below upwards into the cicatricial tissue, and terminates in a small, irregular, almost obliterated cavity, partly filled with decolorized fibrin.

It seems probable that a varicose vein accompanying a terminal branch of the profunda artery, ruptured in or close to the attachment of the adductor magnus, and gave rise to the hæmatoma, and that the terminal branch of the artery was ligatured during the operation.

Dr. Sands said that the specimen confirmed the opinion that the tumor was not aneurismal, but was a venous tumor caused by rupture of a profunda vein; and it was possible that the determining cause of the rupture was the presence of the sharp ridge of bone springing from the femur.

When the sac was emptied of clots, and before the tourniquet was applied, some fresh blood escaped, but, judging only from its color, he would be unable to say positively whether it was venous or arterial, but the vessel in which the opening existed was of such large size that he had no doubt of its being a vein. The aneurismal needle used was a rather sharp one, and in using it he punctured an artery, which, when the tourniquet was loosened, permitted hemorrhage, but that point was at a considerable distance from the opening in the large vessel ligated. As the bleeding vein, owing to its deep situation and the condensation of the surrounding tissues, could not be isolated, the ligatures must have embraced the profunda artery as well as the vein. The blood, also, which flowed from the vein was very dark colored.

DR. R. J. HALL then read a paper entitled

#### A CONTRIBUTION TO THE ETIOLOGY OF MALIGNANT TUMORS.

(See page 478.)

THE PRESIDENT, referring to Gripp's latest work on diseases of the rectum, stated that this author considered epithelioma of the rectum as probably parasitic in nature, which is supported by the fact that in the underground workers of certain mines in Silesia, sarcoma occurs very frequently, whereas it does not prevail among those who live in the adjacent country, and also that in the low lands near Liverpool, in England, there is a marked increase in the cases of cancer. The two

cases quoted in the paper under the initial D, had been in their termination in his care, and they had struck him as bearing upon the question of contagion closer than any he had ever encountered.

DR. POST said that one interesting feature of the tumor upon which he operated was, that although the morbid growth did not extend into the antrum it had eroded its anterior wall so that he could pass his little finger into the cavity.

DR. SANDS was able to add another case to the list given by Dr. Hall, one in which malignant disease occurred in more than one member of the same family. A young man came to him three years ago on account of a swelling on the right side of the face over the sphenomaxillary and malar regions. It seemed to be due to the development of a tumor which was very deeply situated, and which, besides causing projection of the side of the face, was attended with a protrusion of the eye. He suspected the existence of a polypus of the sphenomaxillary fossa, and with a view to remove it he raised the malar bone, but was disappointed on discovering that, although a tumor was present in the sphenomaxillary fossa, it was not a polypus, but was firmly embedded and could not be removed. The patient was known to be living six months ago, in a state of great misery, the tumor having reached a very large size. About six months ago a brother of this patient was brought, in whom a tumor of large size had developed in the pharynx, within a few months. It filled the pharyngeal cavity and although it was not firm in consistence it was firmly attached. The disease was evidently malignant. The patient's general health had become very much impaired, and Dr. Sands was obliged to decline surgical interference. Probably both patients are now dead. They lived in the same house in Westchester County, and often occupied the same room.

It seemed to him that such cases, although they cannot be accepted as proving the contagiousness of malignant tumors, indicate very clearly the direction in which future inquiries should be made, in the hope of confirming the hypothesis of the parasitic nature of these morbid growths; for, certainly there is no disease not already proved to be parasitic, which seems so likely as cancer to have such a mode of origin.

DR. HALL remarked with reference to the remarkable absence of apparent contagion in literature, that it may be explained by the fact that, if the idea of specific poisons for malignant tumors is accepted, probably all cases recorded as of hereditary origin will fall under the head of infection. In tubercle practically the same thing is occurring now. Formerly all cases were attributed to heredity, whereas now they are very largely attributed to infection. Congenital tuberculosis is extremely rare, and while congenital carcinoma and sarcoma occur, they are also extremely rare.

Adjourned.

## CORRESPONDENCE.

### ANOTHER RESIGNATION FROM THE CONGRESS.

*To the Editor of THE MEDICAL NEWS.*

SIR: My attention has been called to the fact, that my name has been twice published in your journal

as, so far as is publicly known, not having declined to accept office under the new Committee of the International Medical Congress.

I beg that, as soon as possible, you will make the fact public that, on August 31, 1885, I addressed a letter to Dr. John V. Shoemaker, in which I declined to have anything to do with the Congress under its present organization.

It would be especially gratifying to me if the date of my declination, as well as the fact of it, could be mentioned in your columns. Very respectfully yours,

JOHN G. CURTIS, M.D.

127 EAST THIRTY-FIFTH ST., NEW YORK CITY,  
October 23, 1885.

## HYDRAMNIOS.

*To the Editor of THE MEDICAL NEWS.*

SIR: In your issue of August 22d there is an abstract of several cases which have occurred of this most curious condition. A great many theoretical explanations of it have been given, but no one, so far as I can see, has yet drawn attention to the fact that every recorded case,—at least it is certainly true about all the cases that I have seen recorded, and all the cases which have occurred in my own practice—has been in twin pregnancy. Until this remarkable fact is got over, all other explanations may go to the winds. The cases have come to me with a single exception as ovarian tumors of rapid growth, and besides those that I have seen I know of several that have been most unfortunately tapped under the impression that they were ovarian cysts.

I am, sir, yours, etc.,

LAWSON TAIT.

BIRMINGHAM, October 5, 1885.

## A METHOD OF MAKING THIN KID FOR TESTING EYE INSTRUMENTS.

*To the Editor of THE MEDICAL NEWS.*

SIR: On account of the great difficulty at times of obtaining the very thin kid that is used for testing eye instruments, I was led to search for a means of supply more accessible than that which has heretofore been available. After many trials, I devised the following method: As this kid consists principally of the epidermic layers, a piece of kid is chosen that has as thick an epidermis as possible (one that has not been scraped too much), and by means of a knife or finger-nail the epiderm at one of the corners is torn or split from the skin beneath. By great care, and working with the thumb-nails, the whole epiderm can be stripped off in one piece. According to the skill exercised, and the adaptability of the skin, will be the results obtained. The small pieces of true skin which are found adhering to the epiderm can be scraped off with a blunt knife, thus leaving a piece of kid as fine as the best Paris make. I was assured by a professional cutter that the kids used here is made by shaving, as he said he could see the marks left by the tool. I believe the kid we use is obtained from the instrument makers of Paris, and at Charrières', in Paris, I was assured that they depended for their supply on an old man who only made the rounds at intervals. So you see the source of supply is exceedingly limited. Enclosed please find a sample.

G. G. DAVIS.

1817 MT. VERNON ST., PHILADELPHIA.

## BANDAGE FOR THE FIXATION OF THE HUMERUS AND SHOULDER GIRDLE.

*To the Editor of THE MEDICAL NEWS.*

SIR: In your issue for August 29, 1885, Dr. Dulles describes "A New Bandage for Fixation of the Humerus and Shoulder Girdle." I can add my testimony that this method of bandaging is a most excellent one for many shoulder injuries.

For several years past I have used it at the Massachusetts General Hospital and in private practice. It is essentially a figure of eight around the axilla of the well side and the elbow of the injured side, crossing over the injured shoulder. Its action in bringing pressure upon the top of the shoulder and at the same time driving the humerus strongly up toward the socket, makes it the treatment par excellence for cases of dislocations of the acromial end of the clavicle, for it holds the clavicle down and through the humerus it lifts the scapula until the acromion can easily be brought on a level with the clavicle.

I have had the opportunity of applying it to three cases of this rare injury and in all of them the recovery was complete without deformity. Yours truly,

A. T. CABOT.

BOSTON, October 24, 1885.

## NEWS ITEMS.

## WASHINGTON.

*(From our Special Correspondent.)*

THE INSPECTION SERVICE ON THE CANADIAN FRONTIER, established by the State authorities of Michigan, for the prevention of the introduction of smallpox into that State, has, at the request of the Governor of the State, been assumed by the Marine-Hospital Service. The reason for the change is the small fund at the command of the Governor, which may be required for other purposes. The Governor, in notifying the Secretary of the State Board of Health of the fact that the service will not be any longer supported by the State, complimented the Secretary upon the fact that up to the present time no case of smallpox originating from Canada has occurred in the State. Surgeon W. H. Long, of the Marine-Hospital Service, has assumed charge of the inspection service in that State.

The Keeper of the Life-Saving Station at Oswego, N. Y., has been informed by the District Superintendent that all tugs have been requested to make signal by whistle whenever they have Canadian vessels in tow, and that upon hearing these signals the surf-boat is to be launched and will carry the Inspector of that station to the vessel, and if the vessel is found to be infected it will be towed to quarantine, and the usual precautions taken. The Inspector lives at the Life-saving Station, and is ready at all hours to board vessels. A complete system of inspection checks is in use, which obviates the annoyance to passengers caused by reinspection at the different stations, each passenger inspected being furnished with a card giving full particulars of the last inspection.

THE CHOLERA EPIDEMIC IN SPAIN.—The United States Consul at Santander, Spain, informs the Department of State, under date of September 19, 1885, that the epidemic of cholera is rapidly decreasing, and that hopes are entertained that the disease will in a short time completely disappear. Some few cases of cholera are reported by the Consular Agent, Mr. Angel Neraza, of Bilbao, to have occurred in some of the villages of that province, but they did not appear to take on an epidemic character.

PUBLIC HEALTH IN ALGIERS.—The Consul General at Paris telegraphs to the Department of State, under date of the 22d instant, that the Consul at Algiers telegraphs that the public health of that place is doubtful, and that ships will leave with foul bills of health.

## MONTREAL.

*(From our Special Correspondent.)*

OPENING OF THE NEW BUILDING OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY, MONTREAL.—The formal opening of the new building of the McGill Medical School took place on October 22, and was a very successful affair. It was attended by many of the prominent citizens of Montreal, and the Governors, Fellows, members of Corporation, and Professors of the University. The addresses given on the occasion were beyond the usual merit of such compositions.

The address of the afternoon was given by PROVOST PEPPER, of Philadelphia. It was an eloquent eulogy on the benefits of higher medical education, and a forcible appeal for the more complete endorsement of the better class of medical schools. He commenced by saying that, by means of steam, electricity, the highest attainments of physical science, and the most perfect appliances, a person is enabled to travel comfortably between Philadelphia and Montreal in a few hours, whereas, fifty years ago, the journey would have been a most serious undertaking, attended with danger and discomfort, and would have occupied weeks, instead of hours. So it is with medical science; with the introduction of exact methods of scientific research, the development of organic chemistry, and the invention of the microscope and other instruments of precision, the entire field of medical science has undergone a marvellous change. The ancient burden of tradition and blind obedience to eminent authority has fallen from men's minds, and they now see nature and nature alone. The lecturer pithily remarked that it is now as absurd to cling to the doctrines of Galen, Browne, Broussais, or of Hahnemann, as to cross the Continent in a buckboard instead of a Pullman coach.

He went on to say that in medical schools of the first rank, the new scientific method of medical education is firmly established, but in the majority of schools grave defects in methods of medical education still exist, and the reforms urgently needed are, 1st. The establishment of a preparatory examination; 2d. The exaction of a period of collegiate studies, and at least three sessions of eight or nine months each; 3d. The careful grading of the courses; 4th. The introduction of ample practical instruction of the student at the bedside and in laboratories; 5th. The establishment of effective examinations,

both written and practical; 6th. The endowment of medical schools so as to secure fixed salaries for the professors, who would then cease to have any pecuniary interest in the size of their classes.

After highly complimenting McGill for having adopted many of these reforms years ago, Provost Pepper went on to say that, although much valuable instruction can be imparted by lectures, they cannot train the hand and eyes of the student in the investigation and recognition of disease. It is by means of the various laboratories of anatomy, chemistry, physiology, and pathology, and later in the wards of the hospital, that this, the most important part of the education of a medical man, is acquired. It is by these means alone that physicians can be produced who are neither routinists nor theorists, but clear-sighted, practical students of nature, as revealed in the myriad forms of morbid action and in the no less numerous agencies for the cure and prevention of disease.

The urgent necessity for more endowments of medical schools was dwelt on, and the establishment of competitive scholarships advocated. The Professor said that, although tens of millions, during the last fifty years, had been given for the support of classical and scientific education, the general movement for the endowment of medical schools is of very recent origin, and the number of large benefactors to such schools can be counted on one finger. The movement has begun, however, and he confidently expects to see it advance till deserving medical schools are fully endowed.

He alluded to the researches of recent years upon the nature and causation of consumption, diphtheria, and of cholera, and said that such investigations must be carried on in such laboratories as are now possessed by McGill University; but, in addition to the laboratories, men are wanted who are willing to devote themselves to those scientific researches; these can only be obtained by the endowment of fellowships tenable for one year or more. It may, he continued, seem extravagant to provide spacious rooms, expensive outfit, and large endowments, merely for the sake of the study of a few of the lowest and most minute forms of organic life; but, if such study leads to the discovery of the true cause of any one of those great diseases, it will be of more value to the world than all the gold fields of California.

In conclusion he said that, although he looked with proud satisfaction on such buildings and laboratories of equipment as those before him, we must not remain contented; the progress of medical science is rapid and unceasing, new fields of investigation are being continually opened up and new methods of research introduced; enlarged facilities will continue to be required from time to time, and ere long other spacious buildings must be erected. We advance with increasing confidence because assured of the co-operation and support of an enlightened public sentiment, and here in Montreal such confidence is not misplaced.

At the conclusion of his address Provost Pepper was loudly cheered.

PROF. OSLER, of Philadelphia, also gave a short address which was rapturously applauded by his old students. He dwelt on the great importance of laboratory work and the necessity for endowed chairs of fellowship, to enable young graduates to do original work.

He congratulated the Faculty on the magnificent building they had erected, and contrasted the present condition with that of fifteen years ago when he was a student of McGill. Then the only practical laboratories were those of anatomy and chemistry; now in the new building, laboratories of practical physiology, pharmacy, pathology, and histology, had been added. He concluded by saying, that in the sixty odd years which had passed since the founding of McGill, the labors of those in charge had been extensive, and the work which had been accomplished had been grand, and he prophesied that in the next half century the progress will be equally grand if not grander.

The Hon. Senator Ferrier, Chancellor of the University, Sir William Dawson, Principal, Dr. R. P. Howard, Dean of the Medical Faculty, and others, then addressed the meeting.

DR. HOWARD said that the money taken from the \$100,000 endowment fund of the Medical Faculty for the erection of the new building, had been only lent to the University, and that at some future time it would be returned to the Faculty.

After the speeches the guests were escorted over the building by the members of the Faculty, the students meanwhile enlivening matters by singing stirring college songs.

In the evening the Faculty entertained the benefactors, governors, and invited guests, at a banquet given in the Windsor Hotel. It was a brilliant affair and brought out some very fine speeches from prominent men.

The following is a short description of the present medical building, which is situated on the grounds of the University.

The main hall on the first floor is 136 feet long with a room 28 feet long at the end, giving a total length from front to rear of 164 feet. The whole building covers an area of about 14,000 square feet. On the ground floor on the left-hand side of the entrance, is the library, which contains over 10,000 volumes. This department has been enlarged by an addition of a room 30x22 feet. On the opposite side of the hall is the museum, the capacity of which has been almost doubled by the addition of a large room, formerly the practical chemistry laboratory. On the same flat is the new pharmacological laboratory fitted up for demonstrating experimentally the action of drugs as well as for giving courses in practical pharmacy. Opposite this laboratory is the students' reading-room. Going still further along the hall we come to the physiological laboratory (45x21) with the private room of the Professor, adjoining.

We now come to the new chemical laboratory (45x35), which is fitted up to accommodate between 75 and 100 students. The balance room and private rooms of the Professor of Chemistry and his assistants, open off the laboratory. Opposite the chemical and physiological laboratories is the new physiological and chemical lecture-room. The room is hexagonal in shape and 76 feet wide. It is lighted by windows and skylight and is capable of seating 275 students. Beneath the seats of the lecture-room are several small rooms allotted to the professors.

On the second story opposite the main staircase is the dissecting-room (72x31). This room is twenty feet high and well ventilated, is furnished with twenty tables,

and has hot and cold water. The light is excellent, being supplied by eleven large windows and two skylights; opening off this is the bone room and the private rooms of the demonstrator and his assistants. Opposite the dissecting-room is the new histological laboratory. It has, commencing about its centre two stages one above the other, on each stage are long tables, provided with microscopes; this arrangement is to prevent students using the front tables obstructing the light; on the floor are four tables ten feet long. The room is provided with thirty microscopes, also microtomes and other apparatus.

In the annex on this flat is a large lecture-room (56x46) capable of seating comfortably 300 students. Opening off this theatre is the private room of the Professor of Anatomy and the anatomical museum.

Under the lecture-room seats are two large rooms, 12 feet wide and 8 feet high and 25 feet long, well lighted; one is for pathological work and the other for the students' medical society. At the end of the hall is the pathologist's private room, and above, two small rooms specially constructed for culture-rooms. The basement is used for laboratories, cloak-room, and janitors' apartments.

The whole building is heated with hot-water furnaces and provided with hot and cold water and electric bells.

The additions made to the medical school make it one of the largest and most complete on this continent. There is certainly no school building to compare with it in the Dominion of Canada.

One good feature about the McGill school is, that while it is extending its building it is also making its course larger and more complete. It now requires four full six months' sessions and one three months' summer session before graduation. A good preliminary examination it has had from its foundation.

The other examinations are very practical in character. Those in clinical medicine and clinical surgery are conducted at the bedside, and in anatomy on the dissecting subject. The examination in other branches, as histology, chemistry, physiology, are equally practical and oral, as well as theoretical and written. It is intended, in the near future, to increase the number of compulsory summer sessions, which are chiefly devoted to practical work in the laboratories and hospitals.

**CONDENSED RULES GOVERNING STATE HEALTH INSPECTORS OF TRAVEL AT PORT HURON AND DETROIT, MICHIGAN.**—The Michigan State Board of Health issued, on October 15, the following condensed rules:

1. All travellers and immigrants coming into Michigan from Ontario shall be subject to inspection by an officer appointed by the Michigan State Board of Health.

2. All baggage, household goods, and other effects, belonging to people moving into the United States or to suspected travellers, must be disinfected before entering the country.

3. All immigrants and suspected travellers who do not present proper evidence of recent vaccination or other immunity from smallpox, must be vaccinated before entering the State.

4. After October 15, 1885, no passenger car coming from Montreal or other infected district shall be allowed to enter the State without being properly disinfected.

5. Freight and cars from Montreal or other place liable to be infected, consigned to any place in Michigan, must be thoroughly disinfected before being allowed to proceed. (See Rules 19, 22, and 31, Rules of this Board, under Act No. 230, Laws of 1885.) Inspectors are expected to notify health officers of places outside of Michigan to which are consigned freight cars from suspected places, if they are not disinfected because not consigned to this State.

The State Health Inspection Service, established by this Board under Act No. 230, Laws of Michigan, 1885, will cease immediately; in accordance with a letter this day received from Governor Alger, in which he says: "Of course, however, the State Board will not discharge these officials until the (United States) Government takes the matter up."

The reason for this is, that the Governor considers that the "Regulations for the Maintenance of Quarantine Inspections on the Northern Frontier of the United States," issued by the Treasury Department of the United States (Department No. 153), and approved by the President of the United States, is applicable in Michigan as well as in other States, and that the United States Government should maintain the inspection in Michigan as well as in other States.

During this service no smallpox has entered Michigan so far as known; but it has been reported to have been conveyed from Montreal, by person or otherwise, to Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, Illinois, and Wisconsin. The most exposed of any State, Michigan, has so far escaped.

**YELLOW FEVER INOCULATIONS.**—Dr. Domingos Freire has at length aroused opposition to his theory of yellow fever prevention by inoculation. In a session of the Imperial Academy of Medicine on September 14, at Rio de Janeiro, Dr. Araujo Góes claims to have shown Dr. Freire microscopic preparations of earth taken from his yard, on the Praia de Flamengo, in which was the bacillus discovered by Dr. Freire. Dr. Góes further states that Dr. Freire having failed to discover the spoliferous cells (*cellulas sporadulas*) in the preparation, he sought for these and in a short time showed them to his colleague. He kept the matter quiet with the intention of not discrediting Dr. Freire, but he now regretted his action. On the 17th, the emperor is said to have examined microscopic preparations made by Dr. Vieira de Mello, who claims to have discovered a bacillus in the excretions of patients suffering from acute and chronic malaria, exactly similar to that discovered by Dr. Freire in the excretions of yellow fever patients.—*The Sanitary News*, October 3, 1885.

**THE ATTESTATION OF DIPLOMAS IN PENNSYLVANIA.**—The Medical Faculty of the University of Pennsylvania has issued the following statement in reference to its duty under the law of 1881, entitled "An Act to provide for the registration of all practitioners."

Hitherto, with great hesitation, the Faculty has issued certificates as to the genuineness of the diplomas possessed by applicants, and these certificates have been acknowledged by officers of registration. It is, however, evident that, in doing this, the Faculty has not complied with the law, which requires it to be "satisfied

as to the qualifications of the applicant," and it is very doubtful whether the certificates which have been given legally entitle their recipients to registration. During the last few months it has become more and more apparent that the University of Pennsylvania, if it continues to grant certificates as to the genuineness of diplomas, must issue such certificates for the diplomas of all sorts of colleges. The genuineness of the diploma is in no way dependent upon the scientific character of the body issuing it. A diploma is genuine if the body from which it emanates has a legal right to issue such diploma, and if the law is to be interpreted by the University as requiring its faculty simply to testify as to the genuineness of a diploma, it can make no difference whether such diploma is issued by a regular or irregular college. Further, the gradations between colleges in this country are so close as to make the drawing of lines a task of great difficulty, and the medical Faculty cannot set itself up as a judge between colleges, and say that the diploma of this suffices and that does not.

A very serious matter is the fact that these certificates issued by the University are looked upon by persons ignorant of the circumstances—*i. e.*, by the general community, as endorsements of the medical qualifications of their possessor, and as being in some measure tantamount to the diploma of the University. When the ease with which genuine diplomas are obtained in America, and the little significance which so many of them have, are remembered, it becomes evident that the issue of these certificates by the University is an injustice to its own graduates.

The Medical Faculty also feels that the qualifications of applicants can only be determined by examination, and that it is not legally justified in issuing any certificates whatever, unless "satisfied as to the qualifications of the applicant." It, of course, believes that no one is qualified to enter upon the practice of medicine who cannot pass the examinations required from students of the University. It therefore proposes hereafter to exact such examinations from applicants.

In the future, all persons desiring from the University of Pennsylvania the endorsement on the diploma demanded by Sect. 4, of the Act of 1881, will be required to pass an examination on Chemistry, Anatomy, Physiology, Materia Medica and Therapeutics, Pathology and Morbid Anatomy, Practice of Medicine, Surgery, and on Obstetrics; failure in any branch will cause rejection. To compensate for the labor of such examinations, a fee of \$30 will be charged.

**THE BRITISH GYNECOLOGICAL SOCIETY.**—Drs. Fordyce Barker, T. Gaillard Thomas, and Thomas Addis Emmet, of New York, have been elected honorary fellows of this Society.

**PUBLIC OPINION ON THE CONGRESS ORGANIZATION.**—There is a steady growth in the profession of the feeling of indignation against the impudent and wicked conduct of the gentlemen who are so obstinately bound to wreck the Congress. Every week brings new evidences of this and fresh lists of withdrawals. No amount of editorial vituperation in the organ which the profession is now supporting to its own hurt and shame can obscure this fact.

At present the Congress looks to be very much such

a thing as Bright's disease, viewed from the standpoint of Dr. Goodheart, *viz.*, "a magnificent scheme of decay."—*Medical Record*, October 24, 1885.

**OBITUARY RECORD.**—Died, at Brooklyn, on Tuesday, October 27, SAMUEL G. ARMOR, M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Long Island College Hospital, and Dean of the Faculty.

Dr. Armor was born in Washington County, Pennsylvania, on January 29, 1818. While young, his parents removed to Ohio, in which State he received his early education. He graduated in medicine at the Missouri Medical College in 1844. In 1847 he was appointed to the Chair of Physiology and Pathology in the Iowa University, and in 1854 he accepted the Chair of Medicine in the Medical College of Ohio. He subsequently filled the Chair of Medicine in the Missouri Medical College, and of the Institutes of Medicine in the University of Michigan.

In 1866 he accepted the Chair of Therapeutics in the Long Island College Hospital, and in the following year he was transferred to the Chair of Practice of Medicine in the same school. His widow and one daughter survive him.

**OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR TWO WEEKS ENDING OCTOBER 24, 1885.**

LONG, W. H., *Surgeon*.—To proceed to Detroit, Mich., and assume charge of the Service, October 23, 1885.

AUSTIN, H. W., *Surgeon*.—To proceed to Albany, N. Y., on special duty, October 14, 1885.

WILLIAMS, L. L., *Assistant Surgeon*.—Relieved from duty a Norfolk, Va., to proceed to Washington, D. C., for temporary duty, October 20, 1885.

**OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM OCTOBER 20 TO OCTOBER 26, 1885.**

MCPARLIN, T. A., *Colonel and Surgeon*.—Directed to await further orders in New York City.—*Letter from A. G. O.*, October 19, 1885.

HEGER, ANTHONY, *Major and Surgeon*.—Directed, in addition to his present duties as member of Army Medical Examining Board now in session in New York City, to perform the duties of Attending Surgeon in that city.—*S. O. 140, A. G. O.* October 19, 1885.

BAILY, JOSEPH C., *Major and Surgeon*.—Granted leave of absence for twenty days.—*S. O. 225, Department of the East*, October 19, 1885.

HUNTINGTON, D. L., *Major and Surgeon U. S. Army*.—Detailed on Board to inspect Army and Navy Hospital Buildings at Hot Springs, Ark.—*S. O. 245, A. G. O.*, October 24, 1885.

BARROWS, C. C., *First Lieutenant and Assistant Surgeon*.—In addition to his other duties, to take temporary charge of office of the Medical Division, Department of Arizona.—*S. O. 102, Department of Arizona*, October 17, 1885.

**THE MEDICAL NEWS** will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked. Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS should be addressed to No. 1004 Walnut Street, Philadelphia.